

Assessing the Effectiveness of a Mathematics-Focused, Instructional Technology Program for Grades 6–8: A 5-Year Trend Analysis of NASA CONNECT™ Evaluation Data

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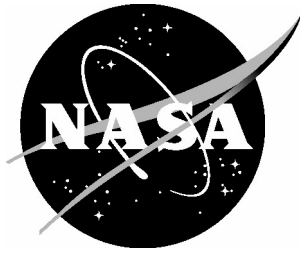
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Summary

NASA CONNECT™ <<http://connect.larc.nasa.gov>> is a series of Emmy®-award-winning, integrated mathematics and science instructional programs for grades 6–8. Continental Research, a marketing, research, and consulting firm located in Norfolk, Virginia, was asked to tabulate and analyze five years of NASA CONNECT™ evaluative data. Continental Research used these data to (1) create an individual report for each of the five broadcast seasons and (2) prepare an aggregated report containing the tabulation and analysis of the five years of data. The results of their tabulation and analysis indicated that, over the past five years, users of NASA CONNECT™ agree the program(s) (1) are aligned with the national mathematics, science, and technology standards (4.60); (2) present (learning) mathematics, science, and technology as a process requiring creativity, critical thinking, and problem-solving skills (4.58); (3) exhibit women and minorities performing challenging engineering and science tasks (4.52); (4) present the “real world” application of mathematics, science, and technology (4.51); (5) display workplace science and technology as a collaborative process (4.48.); (6) contain content that enhances the teaching and integration of mathematics, science, and technology (4.47); (7) raise student awareness about careers requiring mathematics, science, and technology proficiency (4.47); (8) are developmentally appropriate for the grade level (4.22); and (9) are easily integrated into the curriculum (4.11). Overall (from the 1998–1999 season through the 2001–2002 season), 93.3 percent of users (educators) surveyed reported that the programs in the NASA CONNECT™ series had met their stated objectives. Also, 100 percent of those surveyed acknowledged that they had recommended NASA CONNECT™ to a colleague. Moreover, nearly 95 percent of those surveyed reported that NASA CONNECT™ was successful in educating and informing others about what NASA does.

Introduction

The NASA Langley Center for Distance Learning (CDL) <<http://dlcenter.larc.nasa.gov>> is an organizational unit of NASA Langley Research Center’s Office of Education. The NASA CDL produces 6 award-winning distance learning programs that span the educational horizon from K–12 through post-secondary education (13–18) to adult (lifelong) learners. Collectively, these programs are designed to enhance and enrich the teaching and learning of mathematics, science, and technology. Programs in the NASA CONNECT™ series are research-, inquiry-, and standards-based; are technology- and teacher-focused; and use NASA programs, projects, facilities, research, and people to demonstrate the “real world” application of the science, technology, engineering, and mathematics (STEM) concepts learned in the classroom. About 300,000 educators, representing 8,718,852 students, are registered users of NASA CONNECT™. Sponsored by NASA’s Aeronautics Enterprise, each program in the NASA CONNECT™ series has the following three components: a 30-minute television broadcast, an educator guide that contains a hands-on activity, and an interactive web activity that provides educators an opportunity to integrate technology into the classroom setting and enables students to further explore topics presented in the broadcast. The three components are designed as an integrated instructional package to be used collectively and/or individually.

Methodology

Each year a survey of 1,000 randomly selected registered users of NASA CONNECT™ is undertaken to determine the extent to which educators disagree/agree that the objectives established for the series are being met. Written (self-reported) surveys were used for the 1998–1999, 1999–2000, 2000–2001, and 2001–2002 broadcast seasons; an online survey was used for the 2002–2003 broadcast season. The survey itself, divided into sections by topic, was organized to facilitate easy completion. Although the survey

instrument employed a variety of techniques for measuring opinions, many of the questions used “agree–ment scales.” Evaluators asked respondents to indicate their level of disagreement/agreement with state–ments that were presented. A 5–point scale was used, in which 1 meant “I disagree with the statement” and 5 meant “I agree with the statement.” In addition, “Yes/No” and other discrete category response–style questions were used. Participants also had the opportunity to offer comments. A deadline was estab–lished for completing and returning the survey, and the “usable” surveys received by that date were tabulated. Total numbers of usable surveys for each of the five broadcast seasons appear below.

<u>1998–1999</u>	<u>1999–2000</u>	<u>2000–2001</u>	<u>2001–2002</u>	<u>2002–2003</u>
302	268	156	118	227

At the conclusion of the 2002–2003 broadcast season, Continental Research was given the five years of evaluation data for tabulation and analysis. They reviewed the data files for each season, minimally cleaned each file for logic, and retabulated the results. Continental Research used these data to (1) create an individual report for each of the five broadcast seasons and (2) produce an aggregated report that contained the tabulation and analysis of the five years of data.

As might be expected, the survey instruments varied slightly from year to year. However, in 2002–2003, the primary measurement scale changed from “Disagree–Agree” to “Strongly Disagree–Strongly Agree.” Because the 2002–2003 data were not comparable to prior years’ results, data were omitted from some 5–year analyses.

This report contains, in a single file, the data sets with five years of evaluation data. Evaluators arranged the data in a single file to perform a comprehensive, cumulative analysis and to look for trends that have developed over the 5–year period. As such, when a “grand mean” is reported, it represents the combination of all five data sets into a single file. When a question was asked only in certain years, however, the remaining years were not subjected to analysis. Where appropriate, the evaluators calculated means and standard deviations. When the means for data were tracked over a period of years, an Analysis of Variance (ANOVA) procedure was performed to examine differences in the means from year to year. When evaluators noted a statistical increase or decrease for data from the first year to the most recent year’s mean, they conducted a T–Test between the two means and have indicated all statistically signifi–cant increases or decreases.

Demographics

Educators who participated in the surveys came from a variety of backgrounds. (See Participant Profiles.) About 33 percent of participants declared self–identity with rural schools, 36.9 percent with suburban schools, and 29.7 percent with urban schools. Although their years of experience varied widely, most (87 percent) participants worked in public schools.

Participant Profiles

- 73.3 percent were female.
- 67.8 percent held a degree beyond a Bachelor’s degree.
- 87.1 percent were Caucasian.
- 80.5 percent were classroom teachers.
- 87.0 percent taught in a public school.

- On average, each participant's classrooms had 3.4 computers.
- Participants averaged 16 years of professional education experience.
- 66 percent were members of a (national) professional education association.

Presentation of Data

The survey (appendix A) questions were divided among nine topics. The respondents were asked to respond to questions about (1) instructional technology and programming and their use in the classroom, (2) NASA CONNECT™, and (3) Computers and Associated Technologies. Findings for the eight topics are presented in this section. The topic results are reported in terms of mean (average) rating when the survey items involved a 5-point Likert scale and in percentages when the questions required other responses. Each question was calculated by using the number of respondents that answered that particular question (n) rather than from the total population of respondents (N). Mean values will appear in parentheses following the appropriate questions. Not all questions were asked across all five years of data collection, and as such, respective fields will be marked by the notation "n/a" if no data were collected for that particular question during that year.

Topic 1. Instructional Technology and Teaching

Survey participants were presented with seven statements about the use of instructional technology in teaching. A 5-point scale was used to measure agreement with the statements. These questions were aimed at gathering respondents' opinions of instructional technology and its uses in teaching environments on the whole and in a very general sense, thus establishing a benchmark for comparison.

Thinking about instructional technology and teaching... To what extent do you disagree or agree that instructional technology enables teachers to teach more effectively?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	64.5	65.6	61.2	66.4	n/a	64.6
4	23.8	24.8	21.5	27.4		24.3
3	10.0	8.0	17.4	5.3		9.8
2	1.4	1.5	0.0	0.9		1.1
1 Disagree	<u>0.3</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.1</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 290	n = 262	n = 121	n = 113		n = 786
Mean	4.51	4.55	4.44	4.59		4.52
Standard deviation76	.71	.773	.636		.728
No opinion, n	12	6	35	5		58

Thinking about instructional technology and teaching... To what extent do you disagree or agree that instructional technology enables teachers to accommodate different teaching styles?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	63.8	61.5	63.6	61.9	n/a	62.7
4	24.6	29.0	31.4	24.8		27.1
3	10.9	8.8	4.1	12.4		9.4
2	0.3	0.8	0.8	0.9		0.6
1 Disagree	<u>0.3</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.1</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 293	n = 262	n = 121	n = 113		n = 789
Mean	4.51	4.51	4.58	4.48		4.52
Standard deviation73	.69	.616	.745		.701
No opinion, n	9	6	35	5		55

Thinking about instructional technology and teaching... To what extent do you disagree or agree that instructional technology enables teachers to be more creative?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	67.2	71.3	68.9	65.2	n/a	68.5
4	22.5	24.1	23.8	23.5		23.4
3	8.5	4.2	6.6	8.7		6.8
2	1.4	0.4	0.8	1.7		1.0
1 Disagree	<u>0.3</u>	<u>0.0</u>	<u>0.0</u>	<u>0.9</u>		<u>0.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 293	n = 261	n = 122	n = 115		n = 791
Mean	4.55	4.66	4.61	4.50		4.59
Standard deviation74	.58	.650	.799		.686
No opinion, n	9	7	34	3		53

Thinking about instructional technology and teaching... To what extent do you disagree or agree that instructional technology increases student learning and comprehension?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	56.3	55.9	50.8	53.0	n/a	54.8
4	30.2	32.3	29.5	35.7		31.6
3	12.8	11.8	18.9	8.7		12.8
2	0.7	0.0	0.8	2.6		0.8
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 288	n = 263	n = 122	n = 115		n = 788
Mean	4.42	4.44	4.30	4.39		4.40
Standard deviation74	.70	.802	.757		.737
No opinion, n	14	5	34	3		56

Thinking about instructional technology and teaching... To what extent do you disagree or agree that instructional technology increases student willingness to discuss content/exchange ideas?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	48.3	48.8	43.4	43.0	n/a	46.9
4	29.8	32.4	32.8	38.6		32.4
3	18.5	17.6	22.1	14.9		18.2
2	3.1	1.2	0.8	3.5		2.2
1 Disagree	<u>0.3</u>	<u>0.0</u>	<u>0.8</u>	<u>0.0</u>		<u>0.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 292	n = 256	n = 122	n = 114		n = 784
Mean	4.23	4.29	4.17	4.21		4.24
Standard deviation88	.79	.859	.825		.841
No opinion, n	10	12	34	4		60

Thinking about instructional technology and teaching... To what extent do you disagree or agree that instructional technology increases student motivation and enthusiasm?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	63.9	59.4	56.9	62.1	n/a	61.1
4	24.4	31.4	30.9	26.7		28.1
3	10.3	9.2	12.2	9.5		10.1
2	1.4	0.0	0.0	1.7		0.8
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 291	n = 261	n = 123	n = 116		n = 791
Mean	4.51	4.50	4.45	4.49		4.49
Standard deviation74	.66	.704	.740		.706
No opinion, n	11	7	33	2		53

Thinking about instructional technology and teaching... To what extent do you disagree or agree that instructional technology is effective with virtually all types of students?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	46.0	42.5	41.0	37.8	n/a	42.9
4	25.4	25.7	29.5	34.2		27.4
3	21.6	24.5	19.7	21.6		22.3
2	3.8	6.1	6.6	4.5		5.1
1 Disagree	<u>3.1</u>	<u>1.1</u>	<u>3.3</u>	<u>1.8</u>		<u>2.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 287	n = 261	n = 122	n = 111		n = 781
Mean	4.07	4.02	3.98	4.02		4.03
Standard deviation	1.05	1.01	1.083	.972		1.032
No opinion, n	15	7	34	7		63

Summary Table of Means

Using Instructional Technology in Teaching

To what extent do you disagree or agree with the following statements about instructional technology and teaching [1 = Disagree; 5 = Agree]?

Instructional technology enables teachers to teach more effectively.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.51	4.55	4.44	4.59	n/a	4.52
Standard deviation76	.71	.773	.636		.728
Number of responses, n	n = 290	n = 262	n = 121	n = 113		n = 786

Instructional technology enables teachers to accommodate different teaching styles.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.51	4.51	4.58	4.48	n/a	4.52
Standard deviation73	.69	.616	.745		.701
Number of responses, n	n = 293	n = 262	n = 121	n = 113		n = 789

Instructional technology enables teachers to be more creative.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.55	4.66	4.61	4.50	n/a	4.59
Standard deviation74	.58	.650	.799		.686
Number of responses, n	n = 293	n = 261	n = 122	n = 115		n = 791

Instructional technology increases student learning and comprehension.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.42	4.44	4.30	4.39	n/a	4.40
Standard deviation74	.70	.802	.757		.737
Number of responses, n	n = 288	n = 263	n = 122	n = 115		n = 788

Instructional technology increases student willingness to discuss content/exchange ideas.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.23	4.29	4.17	4.21	n/a	4.24
Standard deviation88	.79	.859	.825		.841
Number of responses, n	n = 292	n = 256	n = 122	n = 114		n = 784

Note: Evaluators used an ANOVA procedure to analyze each set of means. Any significant differences are marked with an asterisk. The first mean from each group was compared to the last mean by using a T-Test Statistic. A "T" denotes any significant differences.

Summary Table of Means

Using Instructional Technology in Teaching (continued)

To what extent do you disagree or agree with the following statements about instructional technology and teaching [1 = Disagree; 5 = Agree]?

Instructional technology increases student motivation and enthusiasm.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.51	4.50	4.45	4.49	n/a	4.49
Standard deviation74	.66	.704	.740		.706
Number of responses, n	n = 291	n = 261	n = 123	n = 116		n = 791

Instructional technology is effective with virtually all types of students.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.07	4.02	3.98	4.02	n/a	4.03
Standard deviation	1.05	1.01	1.083	.972		1.032
Number of responses, n	n = 287	n = 261	n = 122	n = 111		n = 781

Note: Evaluators used an ANOVA procedure to analyze each set of means. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean by using a T-Test Statistic. A "T" denotes any significant differences.

Topic 2. Instructional Programming and Technology in the Classroom

Respondents were asked to respond to statements regarding the effectiveness of instructional technology programming as well as to its use in the classroom. Below are the responses given to the respective inquiries.

Thinking about instructional programming and technology in the classroom... To what extent do you disagree or agree that increasingly, schools have greater access to instructional programs?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	47.9	38.3	45.9	34.2	n/a	42.4
4	33.0	32.6	25.4	31.6		31.5
3	16.0	22.2	22.1	26.3		20.5
2	2.8	5.4	4.9	6.1		4.5
1 Disagree	<u>0.3</u>	<u>1.5</u>	<u>1.6</u>	<u>1.8</u>		<u>1.1</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 288	n = 261	n = 122	n = 114		n = 785
Mean	4.25	4.01	4.09	3.90		4.10
Standard deviation85	.98	1.012	1.004		.950
No opinion, n	14	7	34	4		59

Thinking about instructional programming and technology in the classroom... To what extent do you disagree or agree that most of these programs are of good quality?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	29.6	20.9	29.5	16.7	n/a	24.8
4	33.8	41.3	38.5	36.8		37.5
3	30.3	32.3	30.3	31.6		31.1
2	6.0	3.9	0.8	11.4		5.3
1 Disagree	<u>0.4</u>	<u>1.6</u>	<u>0.8</u>	<u>3.5</u>		<u>1.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 284	n = 254	n = 122	n = 114		n = 774
Mean	3.86	3.76	3.95	3.52		3.79
Standard deviation92	.88	.842	1.015		.919
No opinion, n	18	14	34	4		70

Thinking about instructional programming and technology in the classroom... To what extent do you disagree or agree that most of these programs are appropriate (i.e., not too advanced or too basic) for your students? [Adjustments were made to the data due to wording changes.]

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	15.3	11.5	15.8	15.7	n/a	14.2
4	31.0	27.0	36.7	29.6		30.4
3	31.3	33.6	26.7	31.5		31.4
2	16.8	16.8	16.7	18.5		17.0
1 Disagree	<u>5.6</u>	<u>11.1</u>	<u>4.2</u>	<u>4.6</u>		<u>7.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 268	n = 244	n = 120	n = 108		n = 740
Mean	3.34	3.11	3.43	3.33		3.28
Standard deviation	1.10	1.15	1.075	1.094		1.117
No opinion, n	34	24	36	10		104

Thinking about instructional programming and technology in the classroom... To what extent do you disagree or agree that most of these programs are easily broken into “teachable” units? [Adjustments were made to the data due to wording changes.]

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	16.3	14.8	15.3	17.5	n/a	15.8
4	30.0	23.4	33.1	17.5		26.5
3	23.3	31.6	32.2	28.2		28.2
2	19.3	17.6	12.7	23.3		18.2
1 Disagree	<u>11.1</u>	<u>12.7</u>	<u>6.8</u>	<u>13.6</u>		<u>11.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 270	n = 244	n = 118	n = 103		n = 735
Mean	3.21	3.10	3.37	3.02		3.17
Standard deviation	1.25	1.23	1.100	1.291		1.226
No opinion, n	32	24	38	15		109

Thinking about instructional programming and technology in the classroom... To what extent do you disagree or agree that administrators support and encourage teachers to use instructional technology in the classroom?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	51.6	44.0	49.6	35.8	n/a	46.6
4	21.1	23.4	19.3	29.2		22.8
3	18.3	19.0	21.0	23.6		19.7
2	6.8	9.5	8.4	6.6		7.9
1 Disagree	<u>2.2</u>	<u>4.0</u>	<u>1.7</u>	<u>4.7</u>		<u>3.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 279	n = 252	n = 119	n = 106		n = 756
Mean	4.13	3.94	4.07	3.85		4.02
Standard deviation	1.07	1.17	1.095	1.128		1.120
No opinion, n	23	16	37	12		88

Thinking about instructional programming and technology in the classroom... To what extent do you disagree or agree that classrooms are growing increasingly rich in instructional technology?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	24.9	26.3	33.3	23.4	n/a	26.5
4	28.7	35.1	30.1	30.6		31.3
3	32.5	24.0	26.8	27.0		28.0
2	9.3	8.8	6.5	16.2		9.7
1 Disagree	<u>4.5</u>	<u>5.7</u>	<u>3.3</u>	<u>2.7</u>		<u>4.5</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 289	n = 262	n = 123	n = 111		n = 785
Mean	3.60	3.68	3.84	3.56		3.66
Standard deviation	1.09	1.13	1.066	1.101		1.104
No opinion, n	13	6	33	7		59

Thinking about instructional programming and technology in the classroom... To what extent do you disagree or agree that teachers are generally positive about introducing/using instructional technology in the classroom?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	15.6	17.1	16.4	11.6	n/a	15.7
4	28.1	30.4	31.1	32.1		29.9
3	36.8	30.8	38.5	33.9		34.6
2	16.7	17.1	11.5	19.6		16.4
1 Disagree	<u>2.8</u>	<u>4.6</u>	<u>2.5</u>	<u>2.7</u>		<u>3.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 288	n = 263	n = 122	n = 112		n = 785
Mean	3.37	3.38	3.48	3.30		3.38
Standard deviation	1.02	1.10	.981	1.003		1.038
No opinion, n	14	5	34	6		59

Summary Table of Means

Using Instructional Programming and Technology in the Classroom

To what extent do you disagree or agree with the following statements about instructional programming [1 = Disagree; 5 = Agree]?

Increasingly, schools have greater access to instructional programs.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean*	4.25	4.01	4.09	3.90	n/a	4.10
Standard deviation85	.98	1.012	1.004		.950
Number of responses, n	n = 288	n = 261	n = 122	n = 114		n = 785

Most of these programs are of good quality.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean*	3.86	3.76	3.95	3.52	n/a	3.79
Standard deviation92	.88	.842	1.015		.919
Number of responses, n	n = 284	n = 254	n = 122	n = 114		n = 774

Most of these programs ARE appropriate (i.e., not too advanced or too basic) for my students. [Adjustments were made to the data due to wording changes.]

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean*	3.34	3.11	3.43	3.33	n/a	3.28
Standard deviation	1.10	1.15	1.075	1.094		1.117
Number of responses, n	n = 268	n = 244	n = 120	n = 108		n = 740

Most of these programs ARE easily broken into “teachable” units. [Adjustments were made to the data due to wording changes.]

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	3.21	3.10	3.37	3.02	n/a	3.17
Standard deviation	1.25	1.23	1.100	1.291		1.226
Number of responses, n	n = 270	n = 244	n = 118	n = 103		n = 735

Note: Evaluators used an ANOVA procedure to analyze each set of means. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A “T” denotes any significant differences.

Summary Table of Means

Using Instructional Programming and Technology in the Classroom (continued)

To what extent do you disagree or agree with the following statements about instructional programming [1 = Disagree; 5 = Agree]?

Administrators support and encourage teachers to use instructional technology in the classroom.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.13	3.94	4.07	3.85	n/a	4.02
Standard deviation	1.07	1.17	1.095	1.128		1.120
Number of responses, n	n = 279	n = 252	n = 119	n = 106		n = 756

Classrooms are growing increasingly rich in instructional technology.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	3.60	3.68	3.84	3.56	n/a	3.66
Standard deviation	1.09	1.13	1.066	1.101		1.104
Number of responses, n	n = 289	n = 262	n = 123	n = 111		n = 785

Teachers are generally positive about introducing/using instructional technology in the classroom.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	3.37	3.38	3.48	3.30	n/a	3.38
Standard deviation	1.02	1.10	.981	1.003		1.038
Number of responses, n	n = 288	n = 263	n = 122	n = 112		n = 785

Note: Evaluators used an ANOVA procedure to analyze each set of means. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A "T" denotes any significant differences.

(Asked in 1998–99 only) Thinking about instructional programming and technology in the classroom... To what extent do you agree or disagree that teachers receive the training and technical assistance to support classroom use of instructional technology?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	14.5	n/a	n/a	n/a	n/a	14.5
4	18.8					18.8
3	33.0					33.0
2	20.6					20.6
1 Disagree	<u>13.1</u>					<u>13.1</u>
Total, percentage	100.0					100.0
Number of responses, n	n = 282					n = 282
Mean	3.01					3.01
Standard deviation	1.23					1.23
No opinion, n	20					20

Is not having enough or limited access to computers a barrier to integrating technology into your instructional program?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes	n/a	77.2	62.8	77.1	71.4	72.6
No		<u>22.8</u>	<u>37.2</u>	<u>22.9</u>	<u>28.6</u>	<u>27.4</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769

Is not having enough computer software a barrier to integrating technology into your instructional program?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes	n/a	56.7	45.5	54.2	49.3	51.9
No		<u>43.3</u>	<u>54.5</u>	<u>45.8</u>	<u>50.7</u>	<u>48.1</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769

Is purchased software that has not been installed a barrier to integrating technology into your instructional program?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes	n/a	17.5	8.3	13.6	11.0	13.1
No		<u>82.5</u>	<u>91.7</u>	<u>86.4</u>	<u>89.0</u>	<u>86.9</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769

Is lack of time in the school schedule for technology projects a barrier to integrating technology into your instructional program?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes	n/a	62.3	50.0	57.6	63.9	59.6
No		<u>37.7</u>	<u>50.0</u>	<u>42.4</u>	<u>36.1</u>	<u>40.4</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769

Is lack of technical support for technology projects a barrier to integrating technology into your instructional program?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes	n/a	45.5	32.1	42.4	44.1	41.9
No		<u>54.5</u>	<u>67.9</u>	<u>57.6</u>	<u>55.9</u>	<u>58.1</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769

Is lack of teacher training opportunities for technical projects a barrier to integrating technology into your instructional program?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes	n/a	51.5	40.4	44.1	50.2	47.7
No		<u>48.5</u>	<u>59.6</u>	<u>55.9</u>	<u>49.8</u>	<u>52.3</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769

Is lack of knowledge concerning methods of integrating technology into the curriculum a barrier to integrating technology into your instructional program?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes	n/a	48.5	35.3	38.1	41.0	42.0
No		<u>51.5</u>	<u>64.7</u>	<u>61.9</u>	<u>59.0</u>	<u>58.0</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769

Summary Table

Barriers to Using Technology in Teaching

What are the barriers to integrating technology into your instructional program? Data reflects percent who said yes.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Not having enough/limited access to computers	n/a	77.2 n* = 268	62.8 n = 156	77.1 n = 118	71.4 n = 227	72.6 n = 769
Not having enough computer software	n/a	56.7 n = 268	45.5 n = 156	54.2 n = 118	49.3 n = 227	51.9 n = 769
Purchased software that has not been installed	n/a	17.5 n = 268	8.3 n = 156	13.6 n = 118	11.0 n = 227	13.1 n = 769
Lack of time in the school schedule for technology projects	n/a	62.3 n = 268	50.0 n = 156	57.6 n = 118	63.9 n = 227	59.6 n = 769
Lack of technical support for technology projects	n/a	45.5 n = 268	32.1 n = 156	42.4 n = 118	44.1 n = 227	41.9 n = 769
Lack of teacher training for technical projects	n/a	51.5 n = 268	40.4 n = 156	44.1 n = 118	50.2 n = 227	47.7 n = 769
Lack of knowledge on ways to integrate technology into the curriculum	n/a	48.5 n = 268	35.3 n = 156	38.1 n = 118	41.0 n = 227	42.0 n = 769

*n denotes number of responses; n/a means does not apply.

Do you use instructional programming in your classroom?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes	n/a	n/a	n/a	65.2	77.8	73.5
No				<u>34.8</u>	<u>22.2</u>	<u>26.5</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 115	n = 225	n = 340
Did not respond, n				3	2	5

Compared to other instructional programming, is the quality of NASA CONNECT™ better than average, about average, or worse than average?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Better than average, percentage	n/a	n/a	n/a	80.0	82.2	81.5
About average, percentage				16.0	10.9	12.4
Worse than average, percentage				0.0	0.0	0.0
I'm unable to judge, percentage				<u>4.0</u>	<u>6.9</u>	<u>6.0</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 75	n = 174	n = 249
Did not answer this question, n				3	3	6
Did not use instructional programming, n				40	50	90

Compared to the curriculum/lesson guides in other instructional programming, is the quality of the NASA CONNECT™ curriculum/lesson guides better than average, about average, or worse than average?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Better than average, percentage	n/a	n/a	n/a	70.7	79.8	77.0
About average, percentage				24.0	12.7	16.1
Worse than average, percentage				0.0	0.6	0.4
I'm unable to judge, percentage				<u>5.3</u>	<u>6.9</u>	<u>6.5</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 75	n = 173	n = 248
Did not answer this question, n				3	4	7
Did not use instructional programming, n				40	50	90

Compared to the video in other instructional programming, is the quality of the video in NASA CONNECT™ better than average, about average, or worse than average?

Broadcast season, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Better than average, percentage	n/a	n/a	n/a	72.0	67.1	68.5
About average, percentage				16.0	15.0	15.3
Worse than average, percentage				0.0	0.6	0.4
I'm unable to judge, percentage				<u>12.0</u>	<u>17.3</u>	<u>15.7</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 75	n = 173	n = 248
Did not answer this question, n				3	4	7
Did not use instructional programming, n				40	50	90

Compared to the web-based activities in other instructional programming, is the quality of the web-based activities in NASA CONNECT™ better than average, about average, or worse than average?

	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Broadcast seasons, years						
Better than average, percentage	n/a	n/a	n/a	71.6	69.9	70.4
About average, percentage				13.5	14.5	14.2
Worse than average, percentage				0.0	0.0	0.0
I'm unable to judge, percentage				14.9	15.6	15.4
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 74	n = 173	n = 247
Did not answer this question, n				4	4	8
Did not use instructional programming, n				40	50	90

Summary Table

Comparing NASA CONNECT™ to Other Instructional Programming

How is the quality of NASA CONNECT™?

	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Broadcast seasons, years						
Better than average, percentage	n/a	n/a	n/a	80.0	82.2	81.5
Number of responses, n				n = 75	n = 174	n = 249

How is the quality of the NASA CONNECT™ curriculum/lesson guides?

	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Broadcast seasons, years						
Better than average, percentage	n/a	n/a	n/a	70.7	79.8	77.0
Number of responses, n				n = 75	n = 173	n = 248

How is the quality of the video in NASA CONNECT™?

	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Broadcast seasons, years						
Better than average, percentage	*n/a	n/a	n/a	72.0	67.1	68.5
Number of responses, n				n = 75	n = 173	n = 248

How is the quality of the web-based activities in NASA CONNECT™?

	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Broadcast seasons, years						
Better than average, percentage	n/a	n/a	n/a	71.6	69.9	70.4
Number of responses, n				n = 74	n = 173	n = 24

*n/a means does not apply.

Summary Table

Use of NASA CONNECT™ Program Components

Did you use any of the NASA CONNECT™ _____?

[Data in this table reflect the percentage of “yes” answers.]

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Videos or programs, percentage	n/a	52.2	41.7	45.8	58.1	50.8
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769
Printed educator guides, percentage of use	77.0	50.4	48.1	42.4	53.7	57.0
Number of responses, n	n = 282	n = 268	n = 156	n = 118	n = 227	n = 1051
Classroom activities, percentage	64.8	44.4	43.6	40.7	51.1	50.9
Number of responses, n	n = 290	n = 268	n = 156	n = 118	n = 227	n = 1059
Online activities posted on NASA CONNECT™ web site, percentage	22.3	18.7	9.6	17.8	31.3	20.9
Number of responses, n	n = 287	n = 268	n = 156	n = 118	n = 227	n = 1056

Topic 3. Television and Video Programs

Respondents were asked to provide an overall assessment of the collective programs used in the NASA CONNECT™ series over the years. Responses included assessment of individual shows as well as seasons as a whole. The findings from these years’ data are valuable in planning for future programming, both on a seasonal basis, as well as for programs within seasons. Information was also collected regarding distribution methods and broadcast scope.

Did you use any of the NASA CONNECT™ videos or programs?*

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes responses, percentage	n/a	52.2	41.7	45.8	58.1	50.8
No responses, percentage		<u>47.8</u>	<u>58.3</u>	<u>54.2</u>	<u>41.9</u>	<u>49.2</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 56	n = 118	n = 227	n = 769

*This table was computer-generated; n/a means does not apply.

Thinking about the programs in the NASA CONNECT™ series...

Did you use Program 1?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	44.1	49.6	21.8	28.8	36.8
No, percentage		11.4	12.4	26.7	25.0	18.2
No, but I may in the future, percentage		<u>44.5</u>	<u>38.1</u>	<u>51.5</u>	<u>46.2</u>	<u>45.0</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 245	n = 113	n = 101	n = 212	n = 671	
Did not respond, n		23	43	17	15	98

Did you use Program 2?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	34.2	34.3	23.3	35.0	32.8
No, percentage		14.3	22.2	20.4	20.6	18.6
No, but I may in the future, percentage		<u>51.5</u>	<u>43.5</u>	<u>56.3</u>	<u>44.4</u>	<u>48.6</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 231	n = 108	n = 103	n = 214	n = 656	
Did not respond, n		37	48	15	13	113

Did you use Program 3?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	27.2	40.2	24.5	31.6	30.3
No, percentage		18.1	15.2	18.6	17.5	17.5
No, but I may in the future, percentage		<u>54.7</u>	<u>44.6</u>	<u>56.9</u>	<u>50.9</u>	<u>52.2</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 243	n = 112	n = 102	n = 212	n = 669	
Did not respond, n		25	44	16	15	100

Thinking about the programs in the NASA CONNECT™ series...

Did you use Program 4?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	18.5	33.3	11.3	30.2	23.8
No, percentage		20.7	22.2	27.8	18.6	21.3
No, but I may in the future, percentage		<u>60.8</u>	<u>44.4</u>	<u>60.8</u>	<u>51.2</u>	<u>54.8</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 222	n = 108	n = 97	n = 215	n = 642	
Did not respond, n		46	48	21	12	127

Did you use Program 5?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	27.3	18.9	9.6	25.2	22.7
No, percentage		15.5	25.5	28.7	22.8	21.4
No, but I may in the future, percentage		<u>57.1</u>	<u>55.7</u>	<u>61.7</u>	<u>51.9</u>	<u>55.9</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 238	n = 106	n = 94	n = 206	n = 644	
Did not respond, n		30	50	24	21	125

Did you use Program 6?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	23.2	n/a	16.8	15.2	18.9
No, percentage		17.4		23.8	33.8	25.0
No, but I may in the future, percentage		<u>59.4</u>		<u>59.4</u>	<u>51.0</u>	<u>56.1</u>
Total, percentage		100.0		100.0	100.0	100.0
Number of responses, n	n = 224		n = 101	n = 204	n = 529	
Did not respond, n		44		17	23	84

Thinking about the programs in the NASA CONNECT™ series...

Did you use Program 7?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	19.9	n/a	18.2	31.6	24.1
No, percentage		22.9		19.2	16.5	19.8
No, but I may in the future, percentage		<u>57.1</u>		<u>62.6</u>	<u>51.9</u>	<u>56.2</u>
Total, percentage		100.0		100.0	100.0	100.0
Number of responses, n		n = 231		n = 99	n = 206	n = 536
No opinion, n		37		19	21	77

Did you use Program 8?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	16.2	31.1	26.3
No, percentage				23.2	15.8	18.2
No, but I may in the future, percentage				<u>60.6</u>	<u>53.1</u>	<u>55.5</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 99	n = 209	n = 308
No opinion, n				19	18	37

Did you use Program 9?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	23.0	18.9	20.2
No, percentage				20.0	19.3	19.6
No, but I may in the future, percentage				<u>57.0</u>	<u>61.8</u>	<u>60.3</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 100	n = 212	n = 312
No opinion, n				18	15	33

(If you used Program 1...) Did you use Program 1 to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	52.8	48.2	40.9	36.1	46.6
No, percentage		<u>47.2</u>	<u>51.8</u>	<u>59.1</u>	<u>63.9</u>	<u>53.4</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 108	n = 56	n = 22	n = 61	n = 247
Did not use this particular program, n		32	9	32	71	144
Did not use any programs, n		128	91	64	95	378

(If you used Program 2...) Did you use Program 2 to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	38.0	32.4	16.7	28.0	31.2
No, percentage		<u>62.0</u>	<u>67.6</u>	<u>83.3</u>	<u>72.0</u>	<u>68.8</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 79	n = 37	n = 24	n = 75	n = 215
Did not use this particular program, n		61	28	30	57	176
Did not use any programs, n		128	91	64	95	378

(If you used Program 3...) Did you use Program 3 to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	31.8	40.0	24.0	28.4	31.5
No, percentage		<u>68.2</u>	<u>60.0</u>	<u>76.0</u>	<u>71.6</u>	<u>68.5</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 66	n = 45	n = 25	n = 67	n = 203
Did not use this particular program, n		74	20	29	65	188
Did not use any programs, n		128	91	64	95	378

(If you used Program 4...) Did you use Program 4 to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	31.7	25.0	0.0	24.6	24.8
No, percentage		<u>68.3</u>	<u>75.0</u>	<u>100.0</u>	<u>75.4</u>	<u>75.2</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 41	n = 36	n = 11	n = 65	n = 153
Did not use this particular program, n		99	29	43	67	238
Did not use any programs, n		128	91	64	95	378

(If you used Program 5...) Did you use Program 5 to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	36.9	35.0	0.0	32.7	32.9
No, percentage		<u>63.1</u>	<u>65.0</u>	<u>100.0</u>	<u>67.3</u>	<u>67.1</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 65	n = 20	n = 9	n = 52	n = 146
Did not use this particular program, n		75	45	45	80	245
Did not use any programs, n		128	91	64	95	378

(If you used Program 6...) Did you use Program 6 to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	28.8	n/a	n/a	22.6	26.5
No, percentage		<u>71.2</u>			<u>77.4</u>	<u>73.5</u>
Total, percentage		100.0			100.0	100.0
Number of responses, n		n = 2			n = 31	n = 83
Did not use this particular program, n		88			101	189
Did not use any programs, n		128			95	223

(If you used Program 7...) Did you use Program 7 to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	26.1	n/a	n/a	33.8	30.6
No, percentage		<u>73.9</u>			<u>66.2</u>	<u>69.4</u>
Total, percentage		100.0			100.0	100.0
Number of responses, n		n = 46			n = 65	n = 111
Did not use this particular program, n		94			67	161
Did not use any programs, n		128			95	223

(If you used Program 8...) Did you use Program 8 to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	18.5	18.5
No, percentage					<u>81.5</u>	<u>81.5</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 65	n = 65
Did not use this particular program, n					67	67
Did not use any programs, n					95	95

(If you used Program 9...) Did you use Program 9 to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	27.5	27.5
No, percentage					<u>72.5</u>	<u>72.5</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 40	n = 40
Did not use this particular program, n					92	92
Did not use any programs, n					95	95

(If you used Program 1...) Did you use Program 1 to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	59.3	50.0	40.9	47.5	52.6
No, percentage		<u>40.7</u>	<u>50.0</u>	<u>59.1</u>	<u>52.5</u>	<u>47.4</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 108	n = 56	n = 22	n = 61	n = 247
Did not use this particular program, n		32	9	32	71	144
Did not use any programs, n		128	91	64	95	378

(If you used Program 2...) Did you use Program 2 to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	60.8	54.1	41.7	40.0	50.2
No, percentage		<u>39.2</u>	<u>45.9</u>	<u>58.3</u>	<u>60.0</u>	<u>49.8</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 79	n = 37	n = 24	n = 75	n = 215
Did not use this particular program, n		61	28	30	57	176
Did not use any programs, n		128	91	64	95	378

(If you used Program 3...) Did you use Program 3 to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	56.1	57.8	32.0	47.8	50.7
No, percentage		<u>43.9</u>	<u>42.2</u>	<u>68.0</u>	<u>52.2</u>	<u>49.3</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 66	n = 45	n = 25	n = 67	n = 203
Did not use this particular program, n		74	20	29	65	188
Did not use any programs, n		128	91	64	95	378

(If you used Program 4...) Did you use Program 4 to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	56.1	55.6	54.5	40.0	49.0
No, percentage		<u>43.9</u>	<u>44.4</u>	<u>45.5</u>	<u>60.0</u>	<u>51.0</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 41	n = 36	n = 11	n = 65	n = 153
Did not use this particular program, n		99	29	43	67	238
Did not use any programs, n		128	91	64	95	378

(If you used Program 5...) Did you use Program 5 to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	52.3	30.0	33.3	51.9	47.9
No, percentage		<u>47.7</u>	<u>70.0</u>	<u>66.7</u>	<u>48.1</u>	<u>52.1</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 65	n = 20	n = 9	n = 52	n = 146
Did not use this particular program, n		75	45	45	80	245
Did not use any programs, n		128	91	64	95	378

(If you used Program 6...) Did you use Program 6 to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	59.6	n/a	n/a	32.3	49.4
No, percentage		<u>40.4</u>			<u>67.7</u>	<u>50.6</u>
Total, percentage		100.0			100.0	100.0
Number of responses, n		n = 2			n = 31	n = 83
Did not use this particular program, n		88			101	189
Did not use any programs, n		128			95	223

(If you used Program 7...) Did you use Program 7 to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	47.8	n/a	n/a	41.5	44.1
No, percentage		<u>52.2</u>			<u>58.5</u>	<u>55.9</u>
Total, percentage		100.0			100.0	100.0
Number of responses, n		n = 46			n = 65	n = 111
Did not use this particular program, n		94			67	161
Did not use any programs, n		128			95	223

(If you used Program 8...) Did you use Program 8 to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	40.0	40.0
No, percentage					<u>60.0</u>	<u>60.0</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 65	n = 65
Did not use this particular program, n					67	67
Did not use any programs, n					95	95

(If you used Program 9...) Did you use Program 9 to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	25.0	25.0
No, percentage					<u>75.0</u>	<u>75.0</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 40	n = 40
Did not use this particular program, n					92	92
Did not use any programs, n					95	95

(If you used Program 1...) Did you use Program 1 as a special interest topic?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	31.5	12.5	31.8	24.6	25.5
No, percentage		<u>68.5</u>	<u>87.5</u>	<u>68.2</u>	<u>75.4</u>	<u>74.5</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 108	n = 56	n = 22	n = 61	n = 247
Did not use this particular program, n		32	9	32	71	144
Did not use any programs, n		128	91	64	95	378

(If you used Program 2...) Did you use Program 2 as a special interest topic?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	31.6	8.1	29.2	34.7	28.4
No, percentage		<u>68.4</u>	<u>91.9</u>	<u>70.8</u>	<u>65.3</u>	<u>71.6</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 9	n = 37	n = 24	n = 75	n = 215
Did not use this particular program, n		61	28	30	57	176
Did not use any programs, n		128	91	64	95	378

(If you used Program 3...) Did you use Program 3 as a special interest topic?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	28.8	20.0	28.0	17.9	23.2
No, percentage		<u>71.2</u>	<u>80.0</u>	<u>72.0</u>	<u>82.1</u>	<u>76.8</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 66	n = 45	n = 25	n = 67	n = 203
Did not use this particular program, n		74	20	29	65	188
Did not use any programs, n		128	91	64	95	378

(If you used Program 4...) Did you use Program 4 as a special interest topic?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	36.6	13.9	54.5	20.0	25.5
No, percentage		<u>63.4</u>	<u>86.1</u>	<u>45.5</u>	<u>80.0</u>	<u>74.5</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 41	n = 36	n = 11	n = 65	n = 153
Did not use this particular program, n		99	29	43	67	238
Did not use any programs, n		128	91	64	95	378

(If you used Program 5...) Did you use Program 5 as a special interest topic?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	32.3	5.0	44.4	28.8	28.1
No, percentage		<u>67.7</u>	<u>95.0</u>	<u>55.6</u>	<u>71.2</u>	<u>71.9</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 65	n = 20	n = 9	n = 52	n = 146
Did not use this particular program, n		75	45	45	80	245
Did not use any programs, n		128	91	64	95	378

(If you used Program 6...) Did you use Program 6 as a special interest topic?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	28.8	n/a	n/a	22.6	26.5
No, percentage		<u>71.2</u>			<u>77.4</u>	<u>73.5</u>
Total, percentage		100.0			100.0	100.0
Number of responses, n		n = 52			n = 31	n = 83
Did not use this particular program, n		88			101	189
Did not use any programs, n		128			95	223

(If you used Program 7...) Did you use Program 7 as a special interest topic?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	39.1	n/a	n/a	20.0	27.9
No, percentage		<u>60.9</u>			<u>80.0</u>	<u>72.1</u>
Total, percentage		100.0			100.0	100.0
Number of responses, n		n = 46			n = 65	n = 111
Did not use this particular program, n		94			67	161
Did not use any programs, n		128			95	223

(If you used Program 8...) Did you use Program 8 as a special interest topic?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	26.2	26.2
No, percentage					<u>73.8</u>	<u>73.8</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 65	n = 65
Did not use this particular program, n					67	67
Did not use any programs, n					95	95

(If you used Program 9...) Did you use Program 9 as a special interest topic?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	50.0	50.0
No, percentage					<u>50.0</u>	<u>50.0</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 40	n = 40
Did not use this particular program, n					92	92
Did not use any programs, n					95	95

(If you used Program 1...) Did you use Program 1 as a break from classroom routine?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	22.7	16.4	18.1
No, percentage				<u>77.3</u>	<u>83.6</u>	<u>81.9</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 22	n = 61	n = 83
Did not use this particular program, n				32	71	103
Did not use any programs, n				64	95	159

(If you used Program 2...) Did you use Program 2 as a break from classroom routine?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	12.5	13.3	13.1
No, percentage				<u>87.5</u>	<u>86.7</u>	<u>86.9</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 24	n = 75	n = 99
Did not use this particular program, n				30	57	87
Did not use any programs, n				64	95	159

(If you used Program 3...) Did you use Program 3 as a break from classroom routine?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	24.0	10.4	14.1
No, percentage				<u>76.0</u>	<u>89.6</u>	<u>85.9</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 25	n = 67	n = 92
Did not use this particular program, n				29	65	94
Did not use any programs, n				64	95	159

(If you used Program 4...) Did you use Program 4 as a break from classroom routine?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	27.3	15.4	17.1
No, percentage				<u>72.7</u>	<u>84.6</u>	<u>82.9</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 11	n = 65	n = 76
Did not use this particular program, n				43	67	110
Did not use any programs, n				64	95	159

(If you used Program 5...) Did you use Program 5 as a break from classroom routine?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	22.2	5.8	8.2
No, percentage				<u>77.8</u>	<u>94.2</u>	<u>91.8</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 9	n = 52	n = 61
Did not use this particular program, n				45	80	125
Did not use any programs, n				64	95	159

(If you used Program 6...) Did you use Program 6 as a break from classroom routine?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	0.0	0.0
No, percentage					<u>100.0</u>	<u>100.0</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 31	n = 31
Did not use this particular program, n					101	101
Did not use any programs, n					95	95

(If you used Program 7...) Did you use Program 7 as a break from classroom routine?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	7.7	7.7
No, percentage					<u>92.3</u>	<u>92.3</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 65	n = 65
Did not use this particular program, n					67	67
Did not use any programs, n					95	95

(If you used Program 8...) Did you use Program 8 as a break from classroom routine?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	12.3	12.3
No, percentage					<u>87.7</u>	<u>87.7</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 65	n = 65
Did not use this particular program, n					67	67
Did not use any programs, n					95	95

(If you used Program 9...) Did you use Program 9 as a break from classroom routine?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	0.0	0.0
No, percentage					<u>100.0</u>	<u>100.0</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 40	n = 40
Did not use this particular program, n					92	92
Did not use any programs, n					95	95

(If you used Program 1...) Did you use Program 1 for some other purpose?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	13.0	5.4	n/a	n/a	10.4
No, percentage		<u>87.0</u>	<u>94.6</u>			<u>89.6</u>
Total, percentage		100.0	100.0			100.0
Number of responses, n		n = 108	n = 56			n = 164
Did not use this particular program, n		32	9			41
Did not use any programs, n		128	91			219

(If you used Program 2...) Did you use Program 2 for some other purpose?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	11.4	8.1	n/a	n/a	10.3
No, percentage		<u>88.6</u>	<u>91.9</u>			<u>89.7</u>
Total, percentage		100.0	100.0			100.0
Number of responses, n		n = 79	n = 37			n = 116
Did not use this particular program, n		61	28			89
Did not use any programs, n		128	91			219

(If you used Program 3...) Did you use Program 3 for some other purpose?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	10.6	4.4	n/a	n/a	8.1
No, percentage		<u>89.4</u>	<u>95.6</u>			<u>91.9</u>
Total, percentage		100.0	100.0			100.0
Number of responses, n		n = 66	n = 45			n = 111
Did not use this particular program, n		74	20			94
Did not use any programs, n		128	91			219

(If you used Program 4...) Did you use Program 4 for some other purpose?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	12.2	5.6	n/a	n/a	9.1
No, percentage		<u>87.8</u>	<u>94.4</u>			<u>90.9</u>
Total, percentage		100.0	100.0			100.0
Number of responses, n		n = 41	n = 36			n = 77
Did not use this particular program, n		99	29			128
Did not use any programs, n		128	91			219

(If you used Program 5...) Did you use Program 5 for some other purpose?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	9.2	5.0	n/a	n/a	8.2
No, percentage		<u>90.8</u>	<u>95.0</u>			<u>91.8</u>
Total, percentage		100.0	100.0			100.0
Number of responses, n		n = 65	n = 20			n = 85
Did not use this particular program, n		75	45			120
Did not use any programs, n		128	91			219

(If you used Program 6...) Did you use Program 6 for some other purpose?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	11.5	n/a	n/a	n/a	11.5
No, percentage		<u>88.5</u>				<u>88.5</u>
Total, percentage		100.0				100.0
Number of responses, n		n = 52				n = 52
Did not use this particular program, n		88				88
Did not use any programs, n		128				128

(If you used Program 7...) Did you use Program 7 for some other purpose?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	15.2	n/a	n/a	n/a	15.2
No, percentage		<u>84.8</u>				<u>84.8</u>
Total, percentage		100.0				100.0
Number of responses, n		n = 46				n = 46
Did not use this particular program, n		94				94
Did not use any programs, n		128				128

(Not show-specific...) Were the programs in the NASA CONNECT™ series used to introduce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	54.9	n/a	n/a	n/a	n/a	54.9
No, percentage	<u>45.1</u>					<u>45.1</u>
Total, percentage	100.0					100.0
Number of responses, n	n = 268					n = 268
No response, n	34					34

Were the programs used to reinforce a curriculum topic, objective, or skill?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	75.2	n/a	n/a	n/a	n/a	75.2
No, percentage	<u>24.8</u>					<u>24.8</u>
Total, percentage	100.0					100.0
Number of responses, n	n = 270					n = 270
No response, n	32					32

Were the programs used as a special interest topic?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	70.8	n/a	n/a	n/a	n/a	70.8
No, percentage	<u>29.2</u>					<u>29.2</u>
Total, percentage	100.0					100.0
Number of responses, n	n = 260					n = 260
No response, n	42					42

Were the programs in the NASA CONNECT™ series used for any other purposes?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	3.0	n/a	n/a	n/a	n/a	3.0
No/No choice marked, percentage	<u>97.0</u>					<u>97.0</u>
Total, percentage	100.0					100.0
Number of responses, n	n = 302					n = 302

If you used Program 1, how did you view it?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Live, percentage	n/a	6.4	4.3	5.9	4.2	5.4
Taped, percentage		89.4	91.3	70.6	79.2	85.9
Both, percentage		<u>4.3</u>	<u>4.3</u>	<u>23.5</u>	<u>16.7</u>	<u>8.8</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 94	n = 6	n = 17	n = 48	n = 205
Did not answer this question, n		14	10	5	13	42
Did not use this particular program, n		32	9	32	71	144
Did not use any programs, n		128	91	64	95	378

If you used Program 2, how did you view it?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Live, percentage	n/a	5.6	3.7	5.9	3.9	4.8
Taped, percentage		91.5	92.6	82.4	86.3	89.2
Both, percentage		<u>2.8</u>	<u>3.7</u>	<u>11.8</u>	<u>9.8</u>	<u>6.0</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 71	n = 27	n = 17	n = 51	n = 166
Did not answer this question, n		8	10	7	24	49
Did not use this particular program, n		61	28	30	57	176
Did not use any programs, n		128	91	64	95	378

If you used Program 3, how did you view it?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Live, percentage	n/a	10.0	0.0	0.0	2.2	4.2
Taped, percentage		86.0	93.9	92.9	88.9	89.4
Both, percentage		<u>4.0</u>	<u>6.1</u>	<u>7.1</u>	<u>8.9</u>	<u>6.3</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 50	n = 33	n = 14	n = 45	n = 142
Did not answer this question, n		16	12	11	22	61
Did not use this particular program, n		74	20	29	65	188
Did not use any programs, n		128	91	64	95	378

If you used Program 4, how did you view it?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Live, percentage	n/a	11.1	4.0	0.0	2.3	5.3
Taped, percentage		86.1	92.0	87.5	90.9	89.4
Both, percentage		<u>2.8</u>	<u>4.0</u>	<u>12.5</u>	<u>6.8</u>	<u>5.3</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 36	n = 25	n = 8	n = 44	n = 113
Did not answer this question, n		5	11	3	21	40
Did not use this particular program, n		99	29	43	67	238
Did not use any programs, n		128	91	64	95	378

If you used Program 5, how did you view it?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Live, percentage	n/a	3.6	0.0	20.0	0.0	2.6
Taped, percentage		92.7	100.0	80.0	90.7	92.2
Both, percentage		<u>3.6</u>	<u>0.0</u>	<u>0.0</u>	<u>9.3</u>	<u>5.2</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 55	n = 13	n = 5	n = 43	n = 116
Did not answer this question, n		10	7	4	9	30
Did not use this particular program, n		75	45	45	80	245
Did not use any programs, n		128	91	64	95	378

If you used Program 6, how did you view it?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Live, percentage	n/a	8.7	n/a	n/a	4.3	7.2
Taped, percentage		87.0			69.6	81.2
Both, percentage		<u>4.3</u>			<u>26.1</u>	<u>11.6</u>
Total, percentage		100.0			100.0	100.0
Number of responses, n		n = 46			n = 23	n = 69
Did not answer this question, n		6			8	14
Did not use this particular program, n		88			101	189
Did not use any programs, n		128			95	223

If you used Program 7, how did you view it?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Live, percentage	n/a	5.7	n/a	n/a	2.3	3.8
Taped, percentage		85.7			86.0	85.9
Both, percentage		<u>8.6</u>			<u>11.6</u>	<u>10.3</u>
Total, percentage		100.0			100.0	100.0
Number of responses, n		n = 35			n = 43	n = 78
Did not answer this question, n		11			22	33
Did not use this particular program, n		94			67	161
Did not use any programs, n		128			95	223

If you used Program 8, how did you view it?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Live, percentage	n/a	n/a	n/a	n/a	2.3	2.3
Taped, percentage					90.9	90.9
Both, percentage					<u>6.8</u>	<u>6.8</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 44	n = 44
Did not answer this question, n					21	21
Did not use this particular program, n					67	67
Did not use any programs, n					95	95

If you used Program 9, how did you view it?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Live, percentage	n/a	n/a	n/a	n/a	3.6	3.6
Taped, percentage					78.6	78.6
Both, percentage					<u>17.9</u>	<u>17.9</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 28	n = 28
Did not answer this question, n					12	12
Did not use this particular program, n					92	92
Did not use any programs, n					95	95

(Not show-specific...) Thinking about the programs in the NASA CONNECT™ series, were the programs viewed live, taped, or both?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Live, percentage	4.8	n/a	n/a	n/a	n/a	4.8
Taped, percentage	74.8					74.8
Both, percentage	20.4					<u>20.4</u>
Total, percentage	100.0					100.0
Number of responses, n	n = 250					n = 250
No response, n	52					52

Did you receive the programs through PBS or ITV?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	63.0	54.5	55.2	51.1	56.1
No, percentage		<u>37.0</u>	<u>45.5</u>	<u>44.8</u>	<u>48.9</u>	<u>43.9</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 73	n = 22	n = 29	n = 88	n = 212
No response, n		195	134	89	139	557

Did you receive the programs by downloading them?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	38.3	14.3	38.1	38.0	35.9
No, percentage		<u>61.7</u>	<u>85.7</u>	<u>61.9</u>	<u>62.0</u>	<u>64.1</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 47	n = 14	n = 1	n = 71	n = 153
No response, n		221	142	97	156	616

Did a Media Specialist tape the programs?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	67.5	68.8	60.7	58.2	63.1
No, percentage		<u>32.5</u>	<u>31.3</u>	<u>39.3</u>	<u>41.8</u>	<u>36.9</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 83	n = 32	n = 28	n = 98	n = 241
No response, n		185	124	90	129	528

Did you or someone else tape the programs?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	62.7	80.6	82.8	56.8	65.9
No, percentage		<u>37.3</u>	<u>19.4</u>	<u>17.2</u>	<u>43.2</u>	<u>34.1</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 67	n = 36	n = 29	n = 88	n = 220
No response, n		201	120	89	139	549

Did NASA send you the tapes?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	63.4	100.0	65.4	34.3	56.5
No, percentage		<u>36.6</u>	<u>0.0</u>	<u>34.6</u>	<u>65.7</u>	<u>43.5</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 71	n = 19	n = 26	n = 70	n = 186
No response, n		197	137	92	157	583

Did you experience difficulty obtaining any of the programs in the NASA CONNECT™ series?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	50.9	41.6	50.0	48.5	48.6
No, percentage		<u>49.1</u>	<u>58.4</u>	<u>50.0</u>	<u>51.5</u>	<u>51.4</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 216	n = 89	n = 98	n = 200	n = 603
No response, n		52	67	20	27	166

Summary Table

Obtaining the NASA CONNECT™ Series Programs

Did you experience difficulty obtaining any of the NASA CONNECT™ programs?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	50.9	41.6	50.0	48.5	48.6
Number of responses, n		n = 216	n = 89	n = 98	n = 200	n = 603

Did you receive programs through PBS (or ITV)?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	63.0	54.5	55.2	51.1	56.1
Number of responses, n		n = 73	n = 22	n = 29	n = 88	n = 212

Did you download them?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	38.3	14.3	38.1	38.0	35.9
Number of responses, n		n = 47	n = 14	n = 21	n = 71	n = 153

Did a Media Specialist tape them?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	67.5	68.8	60.7	58.2	63.1
Number of responses, n		n = 83	n = 32	n = 28	n = 98	n = 241

Did you or someone else tape them?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	62.7	80.6	82.8	56.8	65.9
Number of responses, n		n = 67	n = 36	n = 29	n = 88	n = 220

Did NASA send you the tapes?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	63.4	100.0	65.4	34.3	56.5
Number of responses, n		n = 71	n = 19	n = 26	n = 70	n = 186

Note: A substantial proportion of respondents could not answer some of these questions.

(If you used any of the programs in the NASA CONNECT™ series...) Which grade levels viewed the NASA CONNECT™ programs?

[Multiple answers were accepted.]

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Grade levels, percentage</u>						
Kindergarten	n/a	n/a	n/a	n/a	3.8	0.7
First grade	n/a	n/a	n/a	n/a	1.5	0.3
Second grade	n/a	n/a	n/a	n/a	2.3	0.4
Third grade	6.3	2.9	1.5	11.1	3.0	4.9
Fourth grade	24.8	4.3	12.3	18.5	5.3	15.3
Fifth grade	32.1	9.3	20.0	27.8	9.8	21.8
Sixth grade	30.5	25.7	23.1	29.6	23.5	27.4
Seventh grade	23.2	17.9	21.5	25.9	30.3	23.5
Eighth grade	25.8	25.7	16.9	18.5	34.1	26.0
Ninth grade	4.6	13.6	4.6	13.0	9.1	7.9
Tenth grade	2.3	10.0	3.1	13.0	9.1	6.1
Eleventh grade	1.7	8.6	4.6	13.0	9.8	5.8
Twelfth grade	1.7	7.9	6.2	9.3	9.1	5.3
Number of responses, n	n = 302	n = 140	n = 65	n = 54	n = 132	n = 693
No opinion, n	n/a	128	91	64	95	378

Note: Percentage totals for each column will exceed 100 percent because some people used the programs for more than one grade level.

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs were of good artistic quality?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	47.0	50.7	54.2	n/a	49.5
4		43.5	38.0	36.1		40.5
3		8.9	11.3	9.7		9.6
2		0.0	0.0	0.0		0.0
1 Disagree		<u>0.6</u>	<u>0.0</u>	<u>0.0</u>		<u>0.3</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 168	n = 71	n = 72		n = 311
Mean		4.36	4.39	4.44		4.39
Standard deviation70	.69	.669		.686
No opinion, n		100	85	46		231

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs were of good technical quality?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	55.2	62.0	63.5	n/a	58.7
4		40.1	32.4	27.0		35.3
3		4.1	5.6	6.8		5.0
2		0.0	0.0	2.7		0.6
1 Disagree		<u>0.6</u>	<u>0.0</u>	<u>0.0</u>		<u>0.3</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 172	n = 71	n = 74		n = 317
Mean		4.49	4.56	4.51		4.51
Standard deviation64	.60	.745		.654
No opinion, n		96	85	44		225

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs enabled you to accommodate different learning styles?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	38.7	42.9	44.3	n/a	40.9
4		40.5	38.6	42.9		40.6
3		19.6	17.1	11.4		17.2
2		1.2	0.0	1.4		1.0
1 Disagree		<u>0.0</u>	<u>1.4</u>	<u>0.0</u>		<u>0.3</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 168	n = 70	n = 70		n = 308
Mean		4.17	4.21	4.30		4.21
Standard deviation78	.83	.729		.780
No opinion, n		100	86	48		234

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs increased student willingness to discuss/exchange ideas?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	39.5	40.6	43.5	n/a	40.7
4		41.4	44.9	40.6		42.0
3		16.7	13.0	14.5		15.3
2		2.5	1.4	1.4		2.0
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 162	n = 69	n = 69		n = 300
Mean		4.18	4.25	4.26		4.21
Standard deviation80	.74	.760		.772
No opinion, n		106	87	49		242

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs increased student enthusiasm for learning?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	42.9	47.1	50.0	n/a	45.5
4		40.4	37.1	38.9		39.3
3		15.5	12.9	11.1		13.9
2		1.2	2.9	0.0		1.3
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 161	n = 70	n = 72		n = 303
Mean		4.25	4.29	4.39		4.29
Standard deviation76	.80	.683		.751
No opinion, n		107	86	46		239

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs were effective with virtually all types of students?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	38.4	31.4	37.1	n/a	36.5
4		28.9	35.7	42.9		33.8
3		25.8	21.4	18.6		23.1
2		6.9	8.6	1.4		6.0
1 Disagree		<u>0.0</u>	<u>2.9</u>	<u>0.0</u>		<u>0.7</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 159	n = 70	n = 70		n = 299
Mean		3.99	3.84	4.16		3.99
Standard deviation96	1.06	.773		.948
No opinion, n		109	86	48		243

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs were a valuable instructional aid?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	56.5	57.1	65.3	n/a	58.7
4		32.1	32.9	25.0		30.6
3		10.1	10.0	9.7		10.0
2		1.2	0.0	0.0		0.6
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 168	n = 70	n = 72		n = 310
Mean		4.44	4.47	4.56		4.47
Standard deviation72	.68	.669		.700
No opinion, n		100	86	46		232

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs were developmentally appropriate for the grade level?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	36.2	24.2	53.5	n/a	37.7
4		38.0	42.4	35.2		38.3
3		21.5	30.3	8.5		20.3
2		3.1	3.0	0.0		2.3
1 Disagree		<u>1.2</u>	<u>0.0</u>	<u>2.8</u>		<u>1.3</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 163	n = 66	n = 71		n = 300
Mean		4.05	3.88	4.37		4.09
Standard deviation90	.81	.866		.888
No opinion, n		105	90	47		242

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs were easily incorporated into the curriculum?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	40.0	33.3	38.9	n/a	38.2
4		35.6	40.6	34.7		36.5
3		16.9	21.7	18.1		18.3
2		7.5	4.3	5.6		6.3
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>2.8</u>		<u>0.7</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 160	n = 69	n = 72		n = 301
Mean		4.08	4.03	4.01		4.05
Standard deviation93	.86	1.028		.937
No opinion, n		108	87	46		241

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs enhanced the integration of mathematics, science, and technology?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	64.5	62.3	64.3	n/a	63.9
4		27.7	31.9	28.6		28.9
3		6.6	5.8	5.7		6.2
2		1.2	0.0	1.4		1.0
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 166	n = 69	n = 70		n = 305
Mean		4.55	4.57	4.56		4.56
Standard deviation67	.61	.673		.657
No opinion, n		102	87	48		237

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs raised student awareness of careers that require mathematics, science, and technology?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	62.8	63.2	60.0	n/a	62.3
4		27.4	29.4	32.9		29.1
3		9.1	7.4	7.1		8.3
2		0.6	0.0	0.0		0.3
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 164	n = 68	n = 70		n = 302
Mean		4.52	4.56	4.53		4.53
Standard deviation69	.63	.631		.660
No opinion, n		104	88	48		240

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs demonstrated the application of mathematics, science, and technology on the job?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	68.5	68.2	67.1	n/a	68.1
4		24.8	24.2	27.1		25.2
3		6.7	7.6	4.3		6.3
2		0.0	0.0	1.4		0.3
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 165	n = 66	n = 70		n = 301
Mean		4.62	4.61	4.60		4.61
Standard deviation61	.63	.646		.621
No opinion, n		103	90	48		241

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs presented mathematics, science, and technology as disciplines requiring creativity, critical thinking, and problem-solving skills?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	63.0	70.6	67.1	n/a	65.7
4		32.7	26.5	28.6		30.4
3		4.2	2.9	4.3		4.0
2		0.0	0.0	0.0		0.0
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 165	n = 68	n = 70		n = 303
Mean		4.59	4.68	4.63		4.62
Standard deviation57	.53	.569		.563
No opinion, n		103	88	48		239

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs illustrated the integration of workplace mathematics, science, and technology?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	64.1	63.8	71.0	n/a	65.6
4		30.5	30.4	23.2		28.9
3		5.4	5.8	4.3		5.2
2		0.0	0.0	1.4		0.3
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 167	n = 69	n = 69		n = 305
Mean		4.59	4.58	4.64		4.60
Standard deviation59	.60	.641		.605
No opinion, n		101	87	49		237

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs presented women and minorities performing challenging engineering and scientific tasks?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	56.8	55.9	60.0	n/a	57.3
4		38.3	35.3	35.7		37.0
3		4.3	8.8	4.3		5.3
2		0.6	0.0	0.0		0.3
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 162	n = 68	n = 70		n = 300
Mean		4.51	4.47	4.56		4.51
Standard deviation61	.66	.581		.615
No opinion, n		106	88	48		242

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs formed a positive link between the classroom activity and the web-based activity?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	52.2	48.4	54.0	n/a	51.7
4		33.8	39.1	39.7		36.5
3		13.2	10.9	4.8		10.6
2		0.7	1.6	1.6		1.1
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 136	n = 64	n = 63		n = 263
Mean		4.38	4.34	4.46		4.39
Standard deviation74	.74	.668		.722
No opinion, n		132	92	55		279

Summary Table of Means

Evaluating the NASA CONNECT™ Program Series

To what extent do you disagree or agree with the following statements about the programs in the NASA CONNECT™ series [1 = Disagree; 5 = Agree]?

Programs were of good artistic quality.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.36	4.39	4.44	n/a	4.39
Standard deviation70	.69	.669		.686
Number of responses, n		n = 168	n = 71	n = 72		n = 311

Programs were of good technical quality.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.49	4.56	4.51	n/a	4.51
Standard deviation64	.60	.745		.654
Number of responses, n		n = 172	n = 71	n = 74		n = 317

The programs enabled me to accommodate different learning styles.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.17	4.21	4.30	n/a	4.21
Standard deviation78	.83	.729		.780
Number of responses, n		n = 168	n = 70	n = 70		n = 308

The programs increased student willingness to discuss/exchange ideas.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.18	4.25	4.26	n/a	4.21
Standard deviation80	.74	.760		.772
Number of responses, n		n = 162	n = 69	n = 69		n = 300

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean by using a T-Test Statistic. A "T" denotes any significant differences.

Summary Table of Means

Evaluating the NASA CONNECT™ Program Series (continued)

To what extent do you disagree or agree with the following statements about the programs in the NASA CONNECT™ series [1 = Disagree; 5 = Agree]?

The programs increased student enthusiasm for learning.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.25	4.29	4.39	n/a	4.29
Standard deviation76	.80	.683		.751
Number of responses, n		n = 161	n = 70	n = 72		n = 303

The programs were effective with virtually all types of students.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	3.99	3.84	4.16	n/a	3.99
Standard deviation96	1.06	.773		.948
Number of responses, n		n = 159	n = 70	n = 70		n = 299

The programs were a valuable instructional aid.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.44	4.47	4.56	n/a	4.47
Standard deviation72	.68	.669		.700
Number of responses, n		n = 168	n = 70	n = 72		n = 310

The programs were developmentally appropriate for the grade level.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean* ^T	n/a	4.05	3.88	4.37	n/a	4.09
Standard deviation90	.81	.866		.888
Number of responses, n		n = 163	n = 66	n = 71		n = 300

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean by using a T-Test Statistic. A "T" denotes any significant differences.

Summary Table of Means

Evaluating the NASA CONNECT™ Program Series (continued)

To what extent do you disagree or agree with the following statements about the programs in the NASA CONNECT™ series [1 = Disagree; 5 = Agree]?

The programs were easily incorporated into the curriculum.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.08	4.03	4.01	n/a	4.05
Standard deviation93	.86	1.028		.937
Number of responses, n		n = 160	n = 69	n = 72		n = 301

The programs enhanced the integration of mathematics, science, and technology.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.55	4.57	4.56	n/a	4.56
Standard deviation67	.61	.673		.657
Number of responses, n		n = 166	n = 69	n = 70		n = 305

The programs raised student awareness of careers that require mathematics, science, and technology.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.52	4.56	4.53	n/a	4.53
Standard deviation69	.63	.631		.660
Number of responses, n		n = 164	n = 68	n = 70		n = 302

The programs demonstrated the application of mathematics, science, and technology on the job.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.62	4.61	4.60	n/a	4.61
Standard deviation61	.63	.646		.621
Number of responses, n		n = 165	n = 66	n = 70		n = 301

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean by using a T-Test Statistic. A "T" denotes any significant differences.

Summary Table of Means

Evaluating the NASA CONNECT™ Program Series (continued)

To what extent do you disagree or agree with the following statements about the programs in the NASA CONNECT™ series [1 = Disagree; 5 = Agree]?

The programs presented mathematics, science, and technology as disciplines requiring creativity, critical thinking, and problem-solving skills.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.59	4.68	4.63	n/a	4.62
Standard deviation57	.53	.569		.563
Number of responses, n		n = 165	n = 68	n = 70		n = 303

The programs illustrated the integration of workplace mathematics, science, and technology.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.59	4.58	4.64	n/a	4.60
Standard deviation59	.60	.641		.605
Number of responses, n		n = 167	n = 69	n = 69		n = 305

The programs presented women and minorities performing challenging engineering and scientific tasks.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.51	4.47	4.56	n/a	4.51
Standard deviation61	.66	.581		.615
Number of responses, n		n = 162	n = 68	n = 70		n = 300

The programs formed a positive link between the classroom activity and the web-based activity.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.38	4.34	4.46	n/a	4.39
Standard deviation74	.74	.668		.722
Number of responses, n		n = 136	n = 64	n = 63		n = 263

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean by using a T-Test Statistic. A “T” denotes any significant differences.

Topic 4. NASA CONNECT™ Educator Guides

Respondents were asked to respond to questions regarding use, quality, and potential formats for the distribution of future educator guides. Their responses were used in planning from season to season and can be found below.

Did you use any of the NASA CONNECT™ printed educator guides?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	77.0	50.4	48.1	42.4	53.7	57.0
No, percentage	<u>23.0</u>	<u>49.6</u>	<u>51.9</u>	<u>57.6</u>	<u>46.3</u>	<u>43.0</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 282	n = 268	n = 156	n = 118	n = 227	n = 1051
No opinion, n	20	n/a	n/a	n/a	n/a	20

*This table was computer-generated starting in 1999–2000.

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
Did you use the educator guide for Program 1?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	49.8	61.0	24.4	31.1	42.1
No, percentage		10.5	6.7	18.9	23.2	15.1
No, but I may in the future		<u>39.7</u>	<u>32.4</u>	<u>56.7</u>	<u>45.8</u>	<u>42.9</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 219	n = 105	n = 90	n = 190	n = 604
No opinion, n		49	51	28	37	165

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
Did you use the educator guide for Program 2?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	43.4	44.4	23.7	35.9	38.0
No, percentage		10.7	13.1	20.4	20.5	15.9
No, but I may in the future		<u>45.9</u>	<u>42.4</u>	<u>55.9</u>	<u>43.6</u>	<u>46.1</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 205	n = 99	n = 93	n = 195	n = 592
No opinion, n		63	57	25	32	177

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
Did you use the educator guide for Program 3?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	32.5	49.0	26.9	31.1	34.0
No, percentage		17.0	13.7	18.3	13.5	15.5
No, but I may in the future		<u>50.5</u>	<u>37.3</u>	<u>54.8</u>	<u>55.4</u>	<u>50.5</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 206	n = 102	n = 93	n = 193	n = 594
No opinion, n		62	54	25	34	175

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
Did you use the educator guide for Program 4?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	25.6	43.8	14.8	30.9	28.8
No, percentage		16.4	13.5	25.0	16.5	17.3
No, but I may in the future		<u>57.9</u>	<u>42.7</u>	<u>60.2</u>	<u>52.6</u>	<u>53.9</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 195	n = 96	n = 88	n = 194	n = 573
No opinion, n		73	60	30	33	196

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
Did you use the educator guide for Program 5?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	32.4	31.2	10.8	24.1	26.3
No, percentage		16.2	18.3	28.9	21.4	20.1
No, but I may in the future		<u>51.5</u>	<u>50.5</u>	<u>60.2</u>	<u>54.5</u>	<u>53.6</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 204	n = 93	n = 83	n = 187	n = 567
No opinion, n		64	63	35	40	202

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
Did you use the educator guide for Program 6?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	28.1	n/a	19.6	16.1	21.8
No, percentage		16.3		20.7	25.6	20.7
No, but I may in the future		<u>55.6</u>		<u>59.8</u>	<u>58.3</u>	<u>57.5</u>
Total, percentage		100.0		100.0	100.0	100.0
Number of responses, n		n = 196		n = 92	n = 180	n = 468
No opinion, n		72		26	47	145

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
Did you use the educator guide for Program 7?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	22.4	n/a	17.6	28.5	24.0
No, percentage		21.9		18.7	17.1	19.4
No, but I may in the future		<u>55.6</u>		<u>63.7</u>	<u>54.4</u>	<u>56.7</u>
Total, percentage		100.0		100.0	100.0	100.0
Number of responses, n		n = 196		n = 91	n = 193	n = 480
No opinion, n		72		27	34	133

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
Did you use the educator guide for Program 8?**

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	14.3	30.9	25.6
No, percentage				24.2	14.4	17.5
No, but I may in the future				<u>61.5</u>	<u>54.6</u>	<u>56.8</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 91	n = 194	n = 285
No opinion, n				27	33	60

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
Did you use the educator guide for Program 9?**

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	20.7	22.8	22.1
No, percentage				19.6	17.4	18.1
No, but I may in the future				<u>59.8</u>	<u>59.8</u>	<u>59.8</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 92	n = 184	n = 276
No opinion, n				26	43	69

Were the lesson guides received on time?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Yes/No, percentage</u>						
Yes/No choice marked	n/a	86.9	93.6	78.8	n/a	87.1
No/Never Received		<u>13.1</u>	<u>6.4</u>	<u>21.2</u>		<u>12.9</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 268	n = 156	n = 118		n = 542

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
To what extent do you disagree or agree that the directions/instructions in the educator guides were easily understood?**

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	43.1	58.5	47.3	40.9	n/a	48.0
4	36.3	32.3	36.5	34.1		35.0
3	18.1	7.7	14.9	25.0		15.3
2	2.0	1.5	1.4	0.0		1.5
1 Disagree	<u>0.5</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.2</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 204	n = 130	n = 74	n = 44		n = 452
Mean	4.20	4.48	4.30	4.16		4.29
Standard deviation84	.71	.772	.805		.795
No opinion, n	33	5	1	6		45
Did not use educator guides, n	65	133	81	68		347

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
To what extent do you disagree or agree that the layout of the educator guides presented the information clearly?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	47.1	53.4	47.3	53.1	n/a	49.6
4	38.7	35.9	37.8	34.7		37.3
3	13.2	8.4	13.5	10.2		11.6
2	0.5	2.3	1.4	2.0		1.3
1 Disagree	<u>0.5</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.2</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 204	n = 131	n = 74	n = 49		n = 458
Mean	4.31	4.40	4.31	4.39		4.35
Standard deviation76	.74	.757	.759		.751
No opinion, n	33	4	1	1		39
Did not use educator guides, n	65	133	81	68		347

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
To what extent do you disagree or agree that the educator guides were a valuable instructional aid?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	54.5	64.1	55.4	53.1	n/a	57.2
4	34.2	26.7	32.4	36.7		32.0
3	11.4	8.4	10.8	8.2		10.1
2	0.0	0.8	1.4	2.0		0.7
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 202	n = 131	n = 4	n = 49		n = 456
Mean	4.43	4.54	4.42	4.41		4.46
Standard deviation69	.68	.740	.734		.700
No opinion, n	35	4	1	1		41
Did not use educator guides, n	65	133	81	68		347

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
To what extent do you disagree or agree that the print and electronic resources in the educator guide were a valuable instructional aid?**

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	58.5	51.4	56.5	n/a	56.0
4		32.5	29.2	30.4		31.1
3		8.9	19.4	8.7		12.0
2		0.0	0.0	0.0		0.0
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>4.3</u>		<u>0.8</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 123	n = 72	n = 6		n = 241
Mean		4.50	4.32	4.35		4.41
Standard deviation66	.78	.971		.765
No opinion, n		12	3	4		19
Did not use educator guides, n		133	81	68		282

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
To what extent do you disagree or agree that the cue cards provided a positive link between the video and the educator guide?**

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	45.7	46.0	40.9	n/a	44.7
4		33.3	28.0	34.1		32.2
3		15.2	26.0	25.0		20.1
2		4.8	0.0	0.0		2.5
1 Disagree		<u>1.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.5</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 105	n = 50	n = 44		n = 199
Mean		4.18	4.20	4.16		4.18
Standard deviation93	.83	.805		.875
No opinion, n		30	25	6		61
Did not use educator guides, n		133	81	68		282

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
To what extent do you disagree or agree that the teacher “background” portion of the educator guide was a valuable instructional aid?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	62.1	65.7	58.3	n/a	62.4
4		29.0	20.0	29.2		26.4
3		8.1	14.3	10.4		10.3
2		0.0	0.0	2.1		0.4
1 Disagree		<u>0.8</u>	<u>0.0</u>	<u>0.0</u>		<u>0.4</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 124	n = 70	n = 48		n = 242
Mean		4.52	4.51	4.44		4.50
Standard deviation72	.74	.769		.730
No opinion, n		11	5	2		18
Did not use educator guides, n		133	81	68		282

**Thinking about the printed educator guides for the programs in the NASA CONNECT™ series...
To what extent do you disagree or agree that the educator guide was easy to download from the Internet?**

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	55.6	43.3	54.1	n/a	52.5
4		23.6	40.0	24.3		27.3
3		11.1	6.7	18.9		12.2
2		1.4	6.7	0.0		2.2
1 Disagree		<u>8.3</u>	<u>3.3</u>	<u>2.7</u>		<u>5.8</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 72	n = 30	n = 37		n = 139
Mean		4.17	4.13	4.27		4.19
Standard deviation		1.21	1.04	.962		1.107
No opinion, n		63	45	13		121
Did not use educator guides, n		133	81	68		282

Summary Table of Means

Using the NASA CONNECT™ Printed Educator Guides

To what extent do you disagree or agree with the following statements about the printed educator guides in the NASA CONNECT™ series [1 = Disagree; 5 = Agree]?

The directions/instructions were easily understood.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean*	4.20	4.48	4.30	4.16	n/a	4.29
Standard deviation84	.71	.772	.805		.795
Number of responses, n	n = 204	n = 130	n = 74	n = 44		n = 452

The layout presented the information clearly.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.31	4.40	4.31	4.39	n/a	4.35
Standard deviation76	.74	.757	.759		.751
Number of responses, n	n = 204	n = 131	n = 74	n = 49		n = 458

The educator guides were a valuable instructional aid.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.43	4.54	4.42	4.41	n/a	4.46
Standard deviation69	.68	.740	.734		.700
Number of responses, n	n = 202	n = 131	n = 74	n = 49		n = 456

The print and electronic resources in the educator guide were a valuable instructional aid.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.50	4.32	4.35	n/a	4.41
Standard deviation66	.78	.971		.765
Number of responses, n		n = 123	n = 72	n = 46		n = 241

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A “T” denotes any significant differences.

Summary Table of Means

Using the NASA CONNECT™ Printed Educator Guides (continued)

To what extent do you disagree or agree with the following statements about the printed educator guides in the NASA CONNECT™ series [1 = Disagree; 5 = Agree]?

The cue cards provided a positive link between the video and the educator guide.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.18	4.20	4.16	n/a	4.18
Standard deviation93	.83	.805		.875
Number of responses, n		n = 105	n = 50	n = 44		n = 199

The teacher “background” portion of the educator guide was a valuable instructional aid.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.52	4.51	4.44	n/a	4.50
Standard deviation72	.74	.769		.730
Number of responses, n		n = 124	n = 70	n = 48		n = 242

The educator guide was easy to download from the Internet.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.17	4.13	4.27	n/a	4.19
Standard deviation		1.21	1.04	.962		1.107
Number of responses, n		n = 72	n = 30	n = 37		n = 139

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A “T” denotes any significant differences.

If the educator guides were only available in electronic format, could you use them on CD-ROM?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	86.0	88.5	87.9
No, percentage				<u>14.0</u>	<u>11.5</u>	<u>12.1</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 43	n = 122	n = 165
Did not answer this question, n				7	0	7
Did not use educator guides, n				68	105	173

If the educator guides were only available in electronic format, could you use them on DVD?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	35.7	75.4	68.0
No, percentage				<u>64.3</u>	<u>21.6</u>	<u>32.0</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 28	n = 122	n = 150
Did not answer this question, n				22	0	22
Did not use educator guides, n				68	105	173

If the educator guides were only available in electronic format, would you use them on CD-ROM?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	82.2	88.5	86.8
No, percentage				<u>17.8</u>	<u>11.5</u>	<u>13.2</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 45	n = 122	n = 167
Did not answer this question, n				5	0	5
Did not use educator guides, n				68	105	173

If the educator guides were only available in electronic format, would you use them on DVD?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	27.6	74.6	65.6
No, percentage				<u>72.4</u>	<u>25.4</u>	<u>34.4</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 29	n = 122	n = 151
Did not answer this question, n				21	0	21
Did not use educator guides, n				68	105	173

Topic 5. NASA CONNECT™ Classroom Activities/Experiments

Respondents were asked to respond to inquiries related to their usage of the classroom activities and experiments, as well as the general quality of these activities and experiments.

Did you use any of the NASA CONNECT™ classroom activities?*

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	64.8	44.4	43.6	40.7	51.1	50.9
No, percentage	<u>35.2</u>	<u>55.6</u>	<u>56.4</u>	<u>59.3</u>	<u>48.9</u>	<u>49.1</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 290	n = 268	n = 156	n = 118	n = 227	n = 1059
Did not answer this question, n	12	n/a	n/a	n/a	n/a	12

*This table has been computer-generated since 1999-2000.

Thinking about the classroom activities used in the NASA CONNECT™ series... Did you use the classroom activities for Program 1?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	42.0	56.1	21.7	29.3	37.6
No, percentage		12.1	8.4	15.2	25.0	15.8
No, but I may in the future, percentage		<u>46.0</u>	<u>35.5</u>	<u>63.0</u>	<u>45.7</u>	<u>46.6</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 224	n = 107	n = 92	n = 184	n = 607	
Did not answer this question, n		44	49	26	43	162

Thinking about the classroom activities used in the NASA CONNECT™ series... Did you use the classroom activities for Program 2?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	35.9	37.0	23.1	34.2	33.6
No, percentage		13.1	15.0	14.3	21.1	16.2
No, but I may in the future, percentage		<u>51.0</u>	<u>48.0</u>	<u>62.6</u>	<u>44.7</u>	<u>50.3</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 206	n = 100	n = 91	n = 190	n = 587	
Did not answer this question, n		62	56	27	37	182

Thinking about the classroom activities used in the NASA CONNECT™ series... Did you use the classroom activities for Program 3?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	23.7	42.6	25.0	26.6	28.1
No, percentage		15.5	13.9	14.1	18.1	15.8
No, but I may in the future, percentage		<u>60.9</u>	<u>43.6</u>	<u>60.9</u>	<u>55.3</u>	<u>56.1</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 207	n = 101	n = 92	n = 188	n = 588	
Did not answer this question, n		61	55	26	39	181

Thinking about the classroom activities used in the NASA CONNECT™ series... Did you use the classroom activities for Program 4?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	19.0	39.2	9.2	30.6	24.8
No, percentage		15.9	16.5	21.8	18.6	17.8
No, but I may in the future, percentage		<u>65.1</u>	<u>44.3</u>	<u>69.0</u>	<u>50.8</u>	<u>57.4</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 189	n = 97	n = 87	n = 183	n = 556	
Did not answer this question, n		79	59	31	44	213

Thinking about the classroom activities used in the NASA CONNECT™ series... Did you use the classroom activities for Program 5?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	25.9	30.1	7.1	21.8	22.5
No, percentage		15.1	19.4	23.8	24.6	20.1
No, but I may in the future, percentage		<u>59.0</u>	<u>50.5</u>	<u>69.0</u>	<u>53.6</u>	<u>57.4</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 205	n = 93	n = 84	n = 179	n = 561
Did not answer this question, n		63	63	34	48	208

Thinking about the classroom activities used in the NASA CONNECT™ series... Did you use the classroom activities for Program 6?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	22.5	n/a	12.2	10.9	16.0
No, percentage		13.6		18.9	29.7	20.8
No, but I may in the future, percentage		<u>63.9</u>		<u>68.9</u>	<u>59.4</u>	<u>63.2</u>
Total, percentage		100.0		100.0	100.0	100.0
Number of responses, n		n = 191		n = 90	n = 175	n = 456
Did not answer this question, n		77		28	52	157

Thinking about the classroom activities used in the NASA CONNECT™ series... Did you use the classroom activities for Program 7?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	17.5	n/a	18.0	29.7	22.4
No, percentage		17.0		14.6	17.6	16.8
No, but I may in the future, percentage		<u>65.5</u>		<u>67.4</u>	<u>52.7</u>	<u>60.9</u>
Total, percentage		100.0		100.0	100.0	100.0
Number of responses, n		n = 194		n = 89	n = 182	n = 465
Did not answer this question, n		74		29	45	148

Thinking about the classroom activities used in the NASA CONNECT™ series... Did you use the classroom activities for Program 8?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	15.6	26.7	23.0
No, percentage				16.7	20.0	18.9
No, but I may in the future, percentage				<u>67.8</u>	<u>53.3</u>	<u>58.1</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 90	n = 180	n = 270
Did not answer this question, n				28	47	75

Thinking about the classroom activities used in the NASA CONNECT™ series... Did you use the classroom activities for Program 9?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	19.8	19.1	19.3
No, percentage				14.3	21.9	19.3
No, but I may in the future, percentage				<u>65.9</u>	<u>59.0</u>	<u>61.3</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 91	n = 178	n = 269
Did not answer this question, n				27	49	76

Thinking about the classroom activities for the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the classroom activity (experiment) was easily incorporated into your lesson plan?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	35.0	49.6	31.8	39.1	n/a	39.0
4	32.2	35.4	40.9	45.7		36.0
3	30.0	13.3	22.7	13.0		22.2
2	2.2	1.8	4.5	0.0		2.2
1 Disagree	<u>0.6</u>	<u>0.0</u>	<u>0.0</u>	<u>2.2</u>		<u>0.5</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 180	n = 113	n = 66	n = 46		n = 405
Mean	3.99	4.33	4.00	4.20		4.11
Standard deviation89	.77	.859	.833		.858
No opinion, n	20	6	2	2		30
Did not use classroom activities, n	102	149	88	70		409

Thinking about the classroom activities for the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the classroom activity (experiment) complemented the lesson for each show?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	51.5	54.7	45.6	50.0	n/a	51.3
4	36.3	41.5	35.1	33.3		37.2
3	11.7	2.8	17.5	16.7		10.6
2	0.6	0.0	1.8	0.0		0.5
1 Disagree	<u>0.0</u>	<u>0.9</u>	<u>0.0</u>	<u>0.0</u>		<u>0.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 171	n = 106	n = 57	n = 42		n = 376
Mean	4.39	4.49	4.25	4.33		4.39
Standard deviation71	.65	.808	.754		.718
No opinion, n	29	13	11	6		59
Did not use classroom activities, n	102	149	88	70		409

Thinking about the classroom activities for the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the classroom activity (experiment) was developmentally appropriate for the grade level?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	44.4	44.1	29.7	43.2	n/a	41.9
4	36.1	36.9	35.9	40.9		36.8
3	17.2	18.0	23.4	15.9		18.3
2	1.7	0.9	7.8	0.0		2.3
1 Disagree	<u>0.6</u>	<u>0.0</u>	<u>3.1</u>	<u>0.0</u>		<u>0.8</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 180	n = 111	n = 64	n = 44		n = 399
Mean	4.22	4.24	3.81	4.27		4.17
Standard deviation83	.78	1.052	.727		.856
No opinion, n	20	8	4	4		36
Did not use classroom activities, n	102	149	88	70		409

Thinking about the classroom activities for the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the classroom activities (experiments) were easy for you to use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	49.6	35.8	37.8	n/a	43.1
4		32.7	29.9	51.1		35.6
3		15.0	28.4	11.1		18.2
2		1.8	3.0	0.0		1.8
1 Disagree		<u>0.9</u>	<u>3.0</u>	<u>0.0</u>		<u>1.3</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 113	n = 67	n = 45		n = 225
Mean		4.28	3.93	4.27		4.17
Standard deviation85	1.02	.654		.882
No opinion, n		6	1	3		10
Did not use classroom activities, n		149	88	70		307

Summary Table of Means

Evaluating the NASA CONNECT™ Classroom Activities

To what extent do you disagree or agree with the following statements about the classroom activities (experiments) for the NASA CONNECT™ programs [1 = Disagree; 5 = Agree]?

The classroom activity (experiment) was easily incorporated into my lesson plan.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean*	3.99	4.33	4.00	4.20	n/a	4.11
Standard deviation89	.77	.859	.833		.858
Number of responses, n	n = 180	n = 113	n = 66	n = 46		n = 405

It complemented the lesson for each show.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.39	4.49	4.25	4.33	n/a	4.39
Standard deviation71	.65	.808	.754		.718
Number of responses, n	n = 171	n = 106	n = 57	n = 42		n = 376

It was developmentally appropriate for the grade level.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean*	4.22	4.24	3.81	4.27	n/a	4.17
Standard deviation83	.78	1.052	.727		.856
Number of responses, n	n = 180	n = 111	n = 64	n = 44		n = 399

The classroom activities (experiments) were easy for me to use.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean*	n/a	4.28	3.93	4.27	n/a	4.17
Standard deviation85	1.02	.654		.882
Number of responses, n		n = 113	n = 67	n = 45		n = 225

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A “T” denotes any significant differences.

Topic 6. NASA CONNECT™ Web-Based Activities

Respondents were questioned regarding the use and quality of the NASA CONNECT™ web-based activities. The results from these questions spurred developmental changes between seasons.

Did you use any of the on-line activities posted on the NASA CONNECT™ web site?*

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	22.3	18.7	9.6	17.8	31.3	20.9
No, percentage	<u>77.7</u>	<u>81.3</u>	<u>90.4</u>	<u>82.2</u>	<u>68.7</u>	<u>79.1</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 287	n = 268	n = 156	n = 118	n = 227	n = 1056
Did not answer this question, n	15	n/a	n/a	n/a	n/a	15

*This table has been computer-generated since 1999-2000;

n/a denotes does not apply.

Thinking about the on-line activities posted on the NASA CONNECT™ web site... Did you use the on-line activities for Program 1?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	9.0	6.1	7.0	19.0	11.3
No, percentage		29.5	39.4	38.4	31.3	33.1
No, but I may in the future, percentage		<u>61.4</u>	<u>54.5</u>	<u>54.7</u>	<u>49.7</u>	<u>55.6</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 210	n = 99	n = 86	n = 179	n = 574
Did not answer this question, n		58	57	32	48	195

Thinking about the on-line activities posted on the NASA CONNECT™ web site... Did you use the on-line activities for Program 2?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	8.7	4.1	7.1	25.0	12.9
No, percentage		27.2	39.8	39.3	26.1	30.8
No, but I may in the future, percentage		<u>64.1</u>	<u>56.1</u>	<u>53.6</u>	<u>48.9</u>	<u>56.3</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 206	n = 98	n = 84	n = 184	n = 572
Did not answer this question, n		62	58	34	43	197

Thinking about the on-line activities posted on the NASA CONNECT™ web site... Did you use the on-line activities for Program 3?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	12.4	3.1	9.3	18.7	12.3
No, percentage		25.2	39.8	36.0	23.6	28.8
No, but I may in the future, percentage		<u>62.4</u>	<u>57.1</u>	<u>54.7</u>	<u>57.7</u>	<u>58.9</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 218	n = 98	n = 86	n = 182	n = 584
Did not answer this question, n		50	58	32	45	185

Thinking about the on-line activities posted on the NASA CONNECT™ web site... Did you use the on-line activities for Program 4?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	2.0	14.0	4.7	18.0	9.6
No, percentage		31.7	35.0	40.0	27.5	32.2
No, but I may in the future, percentage		<u>66.3</u>	<u>51.0</u>	<u>55.3</u>	<u>54.5</u>	<u>58.2</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 199	n = 100	n = 85	n = 178	n = 562
Did not answer this question, n		69	56	33	49	207

Thinking about the on-line activities posted on the NASA CONNECT™ web site... Did you use the on-line activities for Program 5?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	6.9	5.2	6.0	16.6	9.5
No, percentage		29.7	39.2	40.5	29.1	32.8
No, but I may in the future, percentage		<u>63.4</u>	<u>55.7</u>	<u>53.6</u>	<u>54.3</u>	<u>57.7</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 202	n = 97	n = 84	n = 175	n = 558
Did not answer this question, n		66	59	34	52	211

Thinking about the on-line activities posted on the NASA CONNECT™ web site... Did you use the on-line activities for Program 6?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	13.1	n/a	2.4	6.3	8.7
No, percentage		23.5		39.3	33.1	29.9
No, but I may in the future, percentage		<u>63.4</u>		<u>58.3</u>	<u>60.6</u>	<u>61.4</u>
Total, percentage		100.0		100.0	100.0	100.0
Number of responses, n		n = 213		n = 84	n = 175	n = 472
Did not answer this question, n		55		34	52	141

Thinking about the on-line activities posted on the NASA CONNECT™ Web site... Did you use the on-line activities for Program 7?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	9.9	n/a	1.2	17.2	11.2
No, percentage		27.2		40.2	25.0	28.6
No, but I may in the future, percentage		<u>62.9</u>		<u>58.5</u>	<u>57.8</u>	<u>60.2</u>
Total, percentage		100.0		100.0	100.0	100.0
Number of responses, n		n = 213		n = 82	n = 180	n = 475
Did not answer this question, n		55		36	47	138

Thinking about the on-line activities posted on the NASA CONNECT™ web site... Did you use the on-line activities for Program 8?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	15.7	17.0	16.6
No, percentage				33.7	26.7	29.1
No, but I may in the future, percentage				<u>50.6</u>	<u>56.3</u>	<u>54.3</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 89	n = 176	n = 265
Did not answer this question, n				29	51	80

Thinking about the on-line activities posted on the NASA CONNECT™ web site... Did you use the on-line activities for Program 9?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	10.5	12.8	12.0
No, percentage				34.9	26.2	29.1
No, but I may in the future, percentage				<u>54.7</u>	<u>61.0</u>	<u>58.9</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 86	n = 172	n = 258
Did not answer this question, n				32	55	87

If you used any of the on-line activities posted on the NASA CONNECT™ web site, approximately how many times did you use them?

(Grouped for presentation purposes)

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Number of times used, percentage</u>						
One time	n/a	20.0	8.3	26.7	32.5	24.5
Two times		14.3	25.0	13.3	15.0	15.7
Three times		14.3	16.7	13.3	20.0	16.7
Four times		20.0	25.0	0.0	10.0	13.7
Five times		17.1	16.7	0.0	12.5	12.7
Six or more times		<u>14.3</u>	<u>8.3</u>	<u>46.7</u>	<u>10.0</u>	<u>16.7</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 35	n = 12	n = 15	n = 40	n = 102
Mean		4.7	3.9	5.2	3.3	4.1
Median		4.0	3.5	3.0	3.0	3.0
Standard deviation		5.61	2.84	4.263	2.839	4.203
Did not answer this question, n		15	3	6	31	55
Did not use on-line activities, n		218	141	97	156	612

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the content of the web-based activities was easily integrated into the curriculum?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	32.8	44.0	20.0	61.1	n/a	39.0
4	43.1	34.0	53.3	33.3		39.7
3	19.0	18.0	20.0	5.6		17.0
2	3.4	2.0	6.7	0.0		2.8
1 Disagree	<u>1.7</u>	<u>2.0</u>	<u>0.0</u>	<u>0.0</u>		<u>1.4</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 58	n = 50	n = 15	n = 18		n = 141
Mean	4.02	4.16	3.87	4.56		4.12
Standard deviation91	.93	.834	.616		.890
No opinion, n	21	0	0	3		24
Did not use on-line activities, n	223	218	141	97		679

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the content of the web-based activities enhanced the integration of mathematics, science, and technology?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	55.1	26.7	55.6	n/a	50.0
4		26.5	46.7	33.3		31.7
3		16.3	20.0	11.1		15.9
2		2.0	6.7	0.0		2.4
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 49	n = 15	n = 18		n = 82
Mean		4.35	3.93	4.44		4.29
Standard deviation83	.88	.705		.824
No opinion, n		1	0	3		4
Did not use on-line activities, n		218	141	97		456

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the web-based activities raised student awareness of careers that require mathematics, science, and technological knowledge?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	49.1	52.1	46.7	61.1	n/a	51.4
4	38.6	33.3	33.3	33.3		35.5
3	8.8	10.4	13.3	5.6		9.4
2	3.5	4.2	6.7	0.0		3.6
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 57	n = 48	n = 15	n = 18		n = 138
Mean	4.33	4.33	4.20	4.56		4.35
Standard deviation79	.83	.941	.616		.798
No opinion, n	22	2	0	3		27
Did not use on-line activities, n	223	218	141	97		679

(If you used any of the on-line activities posted on the NASA CONNECT™ web site...) What grade levels used the web-based activities?

(Multiple answers were accepted)

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>Grade levels, percentage</u>						
Kindergarten	n/a	n/a	n/a	n/a	1.4	0.6
First grade		n/a	n/a	n/a	0.0	0.0
Second grade		n/a	n/a	n/a	1.4	0.6
Third grade		4.0	6.7	4.8	0.0	2.5
Fourth grade		12.0	20.0	14.3	4.2	9.6
Fifth grade		8.0	33.3	28.6	9.9	14.0
Sixth grade		26.0	26.7	28.6	26.8	26.8
Seventh grade		26.0	26.7	19.0	43.7	33.1
Eighth grade		34.0	33.3	19.0	43.7	36.3
Ninth grade		14.0	0.0	9.5	9.9	10.2
Tenth grade		12.0	0.0	9.5	8.5	8.9
Eleventh grade		0.0	0.0	9.5	9.9	5.7
Twelfth grade		6.0	0.0	9.5	11.3	8.3
Number of responses, n		n = 50	n = 15	n = 21	n = 71	n = 157
Did not use on-line activities, n		218	141	97	156	612

Note: Percentage totals for each column will exceed 100 percent because some people used the on-line activities for more than one grade level. Number not included in this table because respondents did not use the on-line activities.

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that students were able to complete the web-based activities in a reasonable amount of time?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	41.7	26.7	52.6	n/a	41.5
4		20.8	53.3	26.3		28.0
3		25.0	13.3	21.1		22.0
2		10.4	6.7	0.0		7.3
1 Disagree		<u>2.1</u>	<u>0.0</u>	<u>0.0</u>		<u>1.2</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 48	n = 15	n = 19		n = 82
Mean		3.90	4.00	4.32		4.01
Standard deviation		1.13	.85	.820		1.024
No opinion, n		2	0	2		4
Did not use on-line activities, n		218	141	97		456

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the web-based activities accommodated various learning styles?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	47.9	26.7	44.4	n/a	43.2
4		27.1	46.7	27.8		30.9
3		22.9	20.0	27.8		23.5
2		2.1	6.7	0.0		2.5
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 48	n = 15	n = 18		n = 81
Mean		4.21	3.93	4.17		4.15
Standard deviation87	.88	.857		.868
No opinion, n		2	0	3		5
Did not use on-line activities, n		218	141	97		456

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the content for the web-based activities was appropriate for your students?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	30.0	38.8	26.7	52.6	n/a	35.7
4	36.7	28.6	46.7	31.6		34.3
3	28.3	28.6	20.0	15.8		25.9
2	5.0	4.1	6.7	0.0		4.2
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 60	n = 49	n = 15	n = 19		n = 143
Mean	3.92	4.02	3.93	4.37		4.01
Standard deviation89	.92	.884	.761		.888
No opinion, n	19	1	0	2		22
Did not use on-line activities, n	223	218	141	97		679

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the graphics for the web-based activities were appropriate for your students?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	42.9	40.0	52.6	n/a	44.6
4		32.7	53.3	21.1		33.7
3		20.4	0.0	26.3		18.1
2		4.1	6.7	0.0		3.6
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 49	n = 15	n = 19		n = 83
Mean		4.14	4.27	4.26		4.19
Standard deviation89	.80	.872		.862
No opinion, n		1	0	2		3
Did not use on-line activities, n		218	141	97		456

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the web-based activities enhanced the integration of mathematics, science, and technology?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	57.1	40.0	57.9	n/a	54.2
4		32.7	40.0	31.6		33.7
3		10.2	20.0	10.5		12.0
2		0.0	0.0	0.0		0.0
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 49	n = 15	n = 19		n = 83
Mean		4.47	4.20	4.47		4.42
Standard deviation68	.77	.697		.701
No opinion, n		1	0	2		3
Did not use on-line activities, n		218	141	97		456

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the web-based activities had a good balance of text and graphics?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	49.0	53.3	63.2	n/a	53.0
4		36.7	40.0	15.8		32.5
3		12.2	6.7	21.1		13.3
2		2.0	0.0	0.0		1.2
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 49	n = 15	n = 19		n = 83
Mean		4.33	4.47	4.42		4.37
Standard deviation77	.64	.838		.760
No opinion, n		1	0	2		3
Did not use on-line activities, n		218	141	97		456

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the web-based activities allowed your students to work at their own pace?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	42.9	46.7	47.4	n/a	44.6
4		30.6	26.7	31.6		30.1
3		24.5	20.0	21.1		22.9
2		2.0	6.7	0.0		2.4
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 49	n = 15	n = 19		n = 83
Mean		4.14	4.13	4.26		4.17
Standard deviation87	.99	.806		.867
No opinion, n		1	0	2		3
Did not use on-line activities, n		218	141	97		456

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the web-based activities will likely be revisited/reused?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	59.2	60.0	57.9	n/a	59.0
4		24.5	33.3	31.6		27.7
3		14.3	6.7	10.5		12.0
2		0.0	0.0	0.0		0.0
1 Disagree		<u>2.0</u>	<u>0.0</u>	<u>0.0</u>		<u>1.2</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 49	n = 15	n = 19		n = 83
Mean		4.39	4.53	4.47		4.43
Standard deviation89	.64	.697		.799
No opinion, n		1	0	2		3
Did not use on-line activities, n		218	141	97		456

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that more on-line activities should be available on the NASA CONNECT™ web site?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	74.6	77.1	60.0	57.9	n/a	71.6
4	22.0	10.4	33.3	26.3		19.9
3	3.4	8.3	6.7	15.8		7.1
2	0.0	2.1	0.0	0.0		0.7
1 Disagree	<u>0.0</u>	<u>2.1</u>	<u>0.0</u>	<u>0.0</u>		<u>0.7</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 59	n = 48	n = 15	n = 19		n = 141
Mean	4.71	4.58	4.53	4.42		4.61
Standard deviation53	.90	.640	.769		.715
No opinion, n	20	2	0	2		24
Did not use on-line activities, n	223	218	141	97		679

Thinking about the on-line activities posted on the NASA CONNECT™ web site... To what extent do you disagree or agree that the content of the on-line activities enhanced the teaching of mathematics and science?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	44.8	n/a	n/a	n/a	n/a	44.8
4	44.8					44.8
3	8.6					8.6
2	1.7					1.7
1 Disagree	<u>0.0</u>					<u>0.0</u>
Total, percentage	100.0					100.0
Number of responses, n	n = 58					n = 58
Mean	4.33					4.33
Standard deviation71					.71
No opinion, n	21					21
Did not use on-line activities, n	223					223

Summary Table of Means

The NASA CONNECT™ On-Line Activities

To what extent do you disagree or agree with the following statements about the on-line activities posted on the NASA CONNECT™ web site [1 = Disagree; 5 = Agree]?

The content of the web-based activities was easily integrated into the curriculum.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean ^T	4.02	4.16	3.87	4.56	n/a	4.12
Standard deviation91	.93	.834	.616		.890
Number of responses, n	n = 58	n = 50	n = 15	n = 18		n = 141

The activities enhanced the integration of mathematics, science, and technology.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.35	3.93	4.44	n/a	4.29
Standard deviation83	.88	.705		.824
Number of responses, n		n = 49	n = 5	n = 18		n = 82

The web-based activities raised student awareness of careers that require mathematics, science, and technological knowledge.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.33	4.33	4.20	4.56	n/a	4.35
Standard deviation79	.83	.941	.616		.798
Number of responses, n	n = 57	n = 48	n = 15	n = 18		n = 138

Students were able to complete the web-based activities in a reasonable amount of time.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	3.90	4.00	4.32	n/a	4.01
Standard deviation		1.13	.85	.820		1.024
Number of responses, n		n = 48	n = 15	n = 19		n = 82

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A "T" denotes any significant differences.

Summary Table of Means

The NASA CONNECT™ On-Line Activities (continued)

To what extent do you disagree or agree with the following statements about the on-line activities posted on the NASA CONNECT™ web site [1 = Disagree; 5 = Agree]?

The web-based activities accommodated various learning styles.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.21	3.93	4.17	n/a	4.15
Standard deviation87	.88	.857		.868
Number of responses, n		n = 48	n = 15	n = 18		n = 81

The content for the web-based activities was appropriate for my students.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean ^T	3.92	4.02	3.93	4.37	n/a	4.01
Standard deviation89	.92	.884	.761		.888
Number of responses, n	n = 60	n = 49	n = 15	n = 19		n = 143

The graphics for the web-based activities were appropriate for your students.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.14	4.27	4.26	n/a	4.19
Standard deviation89	.80	.872		.862
Number of responses, n		n = 49	n = 15	n = 19		n = 83

The web-based activities enhanced the integration of mathematics, science, and technology.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.47	4.20	4.47	n/a	4.42
Standard deviation68	.77	.697		.701
Number of responses, n		n = 49	n = 15	n = 19		n = 83

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A “T” denotes any significant differences.

Summary Table of Means

The NASA CONNECT™ On-Line Activities (continued)

To what extent do you disagree or agree with the following statements about the on-line activities posted on the NASA CONNECT™ Web site [1 = Disagree; 5 = Agree]?

The web-based activities had a good balance of text and graphics.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.33	4.47	4.42	n/a	4.37
Standard deviation77	.64	.838		.760
Number of responses, n		n = 49	n = 15	n = 19		n = 83

The web-based activities allowed your students to work at their own pace.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.14	4.13	4.26	n/a	4.17
Standard deviation87	.99	.806		.867
Number of responses, n		n = 49	n = 15	n = 19		n = 83

The web-based activities will likely be revisited/reused.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.39	4.53	4.47	n/a	4.43
Standard deviation89	.64	.697		.799
Number of responses, n		n = 49	n = 15	n = 19		n = 83

More on-line activities should be available on the NASA CONNECT™ web site.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.71	4.58	4.53	4.42	n/a	4.61
Standard deviation53	.90	.640	.769		.715
Number of responses, n	n = 59	n = 48	n = 15	n = 19		n = 141

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A “T” denotes any significant differences.

Did you use the NASA Home CONNECT™ program?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	38.3	n/a	n/a	n/a	n/a	38.3
No, percentage	<u>61.7</u>					<u>61.7</u>
Total, percentage	100.0					100.0
Number of responses, n	n = 60					n = 60
Did not answer this question, n	19					19
Did not use on-line activities, n	223					223

Did you visit the NASA CONNECT™ web site?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	50.0	n/a	n/a	n/a	n/a	50.0
No, percentage	<u>50.0</u>					<u>50.0</u>
Total, percentage	100.0					100.0
Number of responses, n	n = 288					n = 288
Did not answer this question, n	14					14

Did you or your students use Dan's Domain (Norbert's Lab prior to 02–03)?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	42.9	21.4	26.3	17.3	28.4
No, percentage		<u>57.1</u>	<u>78.6</u>	<u>73.7</u>	<u>82.7</u>	<u>71.6</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 49	n = 14	n = 19	n = 52	n = 134
Did not answer this question, n		1	1	2	19	23
Did not use on-line activities, n		218	141	97	156	612

Topic 7. NASA CONNECT™ Web Site

Those surveyed were asked to respond to statements about the NASA CONNECT™ web site over the past five years.

Thinking about the web site for the NASA CONNECT™ series... To what extent do you disagree or agree that the NASA CONNECT™ web site is visually appealing?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	56.7	65.1	58.6	63.9	n/a	61.4
4	36.6	28.9	37.1	27.7		32.2
3	6.7	5.4	4.3	7.2		6.0
2	0.0	0.6	0.0	1.2		0.4
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 134	n = 166	n = 70	n = 83		n = 453
Mean	4.50	4.58	4.54	4.54		4.55
Standard deviation62	.62	.582	.686		.628
No opinion, n	24	102	86	35		247
Did not visit web site, n	144	0	0	0		144

Thinking about the web site for the NASA CONNECT™ series... To what extent do you disagree or agree that there is a good balance between text and graphics on the web site?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	48.0	56.4	51.5	51.8	n/a	52.4
4	42.5	37.4	38.2	34.9		38.5
3	8.7	4.9	8.8	12.0		7.9
2	0.8	1.2	1.5	0.0		0.9
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>1.2</u>		<u>0.2</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 127	n = 163	n = 68	n = 83		n = 441
Mean	4.38	4.49	4.40	4.36		4.42
Standard deviation68	.65	.715	.790		.696
No opinion, n	31	105	88	35		259
Did not visit web site, n	144	0	0	0		144

Thinking about the web site for the NASA CONNECT™ series... To what extent do you disagree or agree that the web site is easily navigated?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	48.5	56.4	51.5	51.2	n/a	52.3
4	40.3	33.1	36.8	34.1		36.0
3	9.0	8.0	10.3	12.2		9.4
2	1.5	1.8	0.0	1.2		1.3
1 Disagree	<u>0.7</u>	<u>0.6</u>	<u>1.5</u>	<u>1.2</u>		<u>0.9</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 134	n = 163	n = 68	n = 82		n = 447
Mean	4.34	4.43	4.37	4.33		4.38
Standard deviation77	.77	.790	.832		.782
No opinion, n	24	105	88	36		253
Did not visit web site, n	144	0	0	0		144

Thinking about the web site for the NASA CONNECT™ series... To what extent do you disagree or agree that when viewed on your monitor, the web site is clearly legible?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	56.4	65.2	58.8	61.6	n/a	61.0
4	37.6	29.3	30.9	29.1		31.9
3	6.0	4.3	8.8	7.0		6.0
2	0.0	0.6	1.5	2.3		0.9
1 Disagree	<u>0.0</u>	<u>0.6</u>	<u>0.0</u>	<u>0.0</u>		<u>0.2</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 133	n = 164	n = 68	n = 86		n = 451
Mean	4.50	4.58	4.47	4.50		4.53
Standard deviation61	.66	.722	.732		.671
No opinion, n	25	104	88	32		249
Did not visit web site, n	144	0	0	0		144

Thinking about the web site for the NASA CONNECT™ series... To what extent do you disagree or agree that the web site is designed so that printouts of individual pages are legible?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	55.2	64.2	55.6	49.3	n/a	57.6
4	35.3	25.8	39.7	42.5		33.7
3	8.6	7.3	4.8	6.8		7.2
2	0.9	0.7	0.0	0.0		0.5
1 Disagree	<u>0.0</u>	<u>2.0</u>	<u>0.0</u>	<u>1.4</u>		<u>1.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 116	n = 151	n = 63	n = 73		n = 403
Mean	4.45	4.50	4.51	4.38		4.46
Standard deviation69	.82	.592	.738		.737
No opinion, n	42	117	93	45		297
Did not visit web site, n	144	0	0	0		144

Thinking about the web site for the NASA CONNECT™ series... To what extent do you disagree or agree that pages within the web site downloaded quickly?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	32.2	41.2	41.7	40.3	n/a	38.4
4	34.7	33.1	33.3	33.8		33.7
3	24.0	20.3	20.0	15.6		20.4
2	5.8	4.1	3.3	6.5		4.9
1 Disagree	<u>3.3</u>	<u>1.4</u>	<u>1.7</u>	<u>3.9</u>		<u>2.5</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 121	n = 148	n = 60	n = 77		n = 406
Mean	3.87	4.09	4.10	4.00		4.01
Standard deviation	1.04	.95	.951	1.088		1.005
No opinion, n	37	120	96	41		294
Did not visit web site, n	144	0	0	0		144

Thinking about the Web site for the NASA CONNECT™ series... To what extent do you disagree or agree that the page lengths are appropriate?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	52.9	49.2	53.9	n/a	52.4
4		36.6	36.9	31.6		35.4
3		10.5	12.3	13.2		11.6
2		0.0	0.0	1.3		0.3
1 Disagree		<u>0.0</u>	<u>1.5</u>	<u>0.0</u>		<u>0.3</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 153	n = 65	n = 76		n = 294
Mean		4.42	4.32	4.38		4.39
Standard deviation68	.81	.765		.730
No opinion, n		115	91	42		248

Thinking about the web site for the NASA CONNECT™ series... To what extent do you disagree or agree that the links to other sites/pages are current?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	54.1	51.6	50.7	n/a	52.6
4		35.8	32.8	41.3		36.6
3		8.1	15.6	5.3		9.1
2		1.4	0.0	1.3		1.0
1 Disagree		<u>0.7</u>	<u>0.0</u>	<u>1.3</u>		<u>0.7</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 48	n = 64	n = 75		n = 287
Mean		4.41	4.36	4.39		4.39
Standard deviation76	.74	.769		.754
No opinion, n		120	92	43		255

Summary Table of Means

The NASA CONNECT™ Web Site

To what extent do you disagree or agree with the following statements about the NASA CONNECT™ web site [1 = Disagree; 5 = Agree]?

The NASA CONNECT™ web site is visually appealing.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.50	4.58	4.54	4.54	n/a	4.55
Standard deviation62	.62	.582	.686		.628
Number of responses, n	n = 134	n = 166	n = 70	n = 83		n = 453

There is a good balance between text and graphics on the web site.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.38	4.49	4.40	4.36	n/a	4.42
Standard deviation68	.65	.715	.790		.696
Number of responses, n	n = 127	n = 163	n = 68	n = 83		n = 441

The web site is easily navigated.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.34	4.43	4.37	4.33	n/a	4.38
Standard deviation77	.77	.790	.832		.782
Number of responses, n	n = 134	n = 163	n = 68	n = 82		n = 447

When viewed on my monitor, the web site is clearly legible.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.50	4.58	4.47	4.50	n/a	4.53
Standard deviation61	.66	.722	.732		.671
Number of responses, n	n = 133	n = 164	n = 68	n = 86		n = 451

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A “T” denotes any significant differences.

Summary Table of Means

The NASA CONNECT™ Web Site (continued)

To what extent do you disagree or agree with the following statements about the NASA CONNECT™ web site [1 = Disagree; 5 = Agree]?

The web site is designed so that printouts of individual pages are legible.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.45	4.50	4.51	4.38	n/a	4.46
Standard deviation69	.82	.592	.738		.737
Number of responses, n	n = 116	n = 151	n = 63	n = 73		n = 403

Pages within the web site downloaded quickly.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	3.87	4.09	4.10	4.00	n/a	4.01
Standard deviation	1.04	.95	.951	1.088		1.005
Number of responses, n	n = 121	n = 148	n = 60	n = 77		n = 406

The page lengths are appropriate.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.42	4.32	4.38	n/a	4.39
Standard deviation68	.81	.765		.730
Number of responses, n		n = 153	n = 65	n = 76		n = 294

The links to other sites/pages are current.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	n/a	4.41	4.36	4.39	n/a	4.39
Standard deviation76	.74	.769		.754
Number of responses, n		n = 148	n = 64	n = 75		n = 287

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean using a T-Test Statistic. A "T" denotes any significant differences.

Topic 8. Classroom Environment

Respondents were surveyed regarding the kinds and amounts of technological equipment they had available and/or used in their homes, schools, and classrooms, including devices such as televisions, VCRs, and video cameras, as well as computer accessories and software packages.

Do you have a television in your classroom, school, or home?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	22.5	14.6	7.7	5.1	4.4	12.6
Yes, in my school only	2.6	3.0	2.6	0.0	0.4	2.0
Yes, in my home only	1.3	3.7	0.6	7.6	3.1	2.9
Yes, in both my classroom and in my school	1.0	1.1	0.6	0.8	1.8	1.1
Yes, in both my classroom and in my home	13.2	17.2	10.3	14.4	10.6	13.4
Yes, in both my school and in my home	12.9	14.2	11.5	11.9	13.2	13.0
Yes, in my classroom, school, and home	41.4	44.0	42.9	54.2	58.6	47.3
No, I don't	<u>5.0</u>	<u>2.2</u>	<u>23.7</u>	<u>5.9</u>	<u>7.9</u>	<u>7.7</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Do you have a VCR in your classroom, school, or home?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	17.2	12.7	7.7	5.1	4.4	10.6
Yes, in my school only	4.3	7.8	4.5	0.8	1.3	4.2
Yes, in my home only	2.0	4.1	0.0	8.5	2.2	3.0
Yes, in both my classroom and in my school	1.7	2.2	1.3	0.8	2.6	1.9
Yes, in both my classroom and in my home	11.9	14.9	9.0	12.7	10.1	12.0
Yes, in both my school and in my home	18.2	23.1	12.8	17.8	18.5	18.7
Yes, in my classroom, school, and home	40.4	32.1	41.0	48.3	52.0	41.7
No, I don't	<u>4.3</u>	<u>3.0</u>	<u>23.7</u>	<u>5.9</u>	<u>8.8</u>	<u>7.9</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Do you have a video camera in your classroom, school, or home?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	3.3	2.2	2.6	1.7	2.6	2.6
Yes, in my school only	38.1	36.9	23.7	28.0	28.6	32.6
Yes, in my home only	9.6	9.7	9.6	14.4	11.0	10.5
Yes, in both my classroom and in my school	1.7	2.6	4.5	0.8	4.4	2.8
Yes, in both my classroom and in my home	1.3	2.2	0.0	1.7	0.4	1.2
Yes, in both my school and in my home	22.2	18.7	20.5	13.6	22.9	20.3
Yes, in my classroom, school, and home	7.0	6.0	9.6	5.9	14.5	8.6
No, I don't	<u>16.9</u>	<u>21.6</u>	<u>29.5</u>	<u>33.9</u>	<u>15.4</u>	<u>21.5</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Do you have a laserdisc player in your classroom, school, or home?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	12.3	10.1	7.7	11.0	5.7	9.5
Yes, in my school only	33.4	37.3	32.7	20.3	31.7	32.5
Yes, in my home only	3.3	3.4	1.9	3.4	2.2	2.9
Yes, in both my classroom and in my school	8.3	4.9	4.5	3.4	7.5	6.2
Yes, in both my classroom and in my home	2.0	1.5	0.6	0.8	0.0	1.1
Yes, in both my school and in my home	1.7	4.1	1.3	0.0	0.9	1.9
Yes, in my classroom, school, and home	1.3	1.1	2.6	3.4	2.2	1.9
No, I don't	<u>37.7</u>	<u>37.7</u>	<u>48.7</u>	<u>57.6</u>	<u>49.8</u>	<u>44.1</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Do you have a computer in your classroom, school, or home?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	14.9	13.1	6.4	5.9	3.5	9.8
Yes, in my school only	4.3	4.1	3.2	0.8	0.9	3.0
Yes, in my home only	1.3	3.0	1.3	6.8	2.2	2.5
Yes, in both my classroom and in my school	7.9	4.1	4.5	0.0	5.3	5.0
Yes, in both my classroom and in my home	10.9	13.8	7.7	11.9	7.0	10.5
Yes, in both my school and in my home	7.9	6.3	2.6	10.2	5.7	6.5
Yes, in my classroom, school, and home	48.7	52.6	47.4	56.8	67.0	54.2
No, I don't	<u>4.0</u>	<u>3.0</u>	<u>26.9</u>	<u>7.6</u>	<u>8.4</u>	<u>8.4</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Do you have a DVD player in your classroom, school, or home?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	n/a	1.9	0.0	2.5	0.4	1.2
Yes, in my school only		7.1	5.1	4.2	10.6	7.3
Yes, in my home only		16.0	13.5	32.2	33.9	23.3
Yes, in both my classroom and in my school		0.7	1.9	0.8	1.3	1.2
Yes, in both my classroom and in my home		0.7	0.6	3.4	4.0	2.1
Yes, in both my school and in my home		2.6	1.3	9.3	14.1	6.8
Yes, in my classroom, school, and home		2.2	2.6	1.7	11.9	5.1
No, I don't		<u>68.7</u>	<u>75.0</u>	<u>45.8</u>	<u>23.8</u>	<u>53.2</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769

Do you have videoconferencing in your classroom, school, or home?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	n/a	n/a	n/a	n/a	0.9	0.9
Yes, in my school only					19.4	19.4
Yes, in my home only					4.4	4.4
Yes, in both my classroom and in my school					1.8	1.8
Yes, in both my classroom and in my home					0.0	0.0
Yes, in both my school and in my home					1.8	1.8
Yes, in my classroom, school, and home					1.3	1.3
No, I don't					<u>70.5</u>	<u>70.5</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 227	n = 227

Do you have video editing equipment in your classroom, school, or home?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	0.7	1.1	0.0	1.7	n/a	0.8
Yes, in my school only	21.2	22.0	17.9	13.6		19.8
Yes, in my home only	1.3	3.4	1.9	4.2		2.5
Yes, in both my classroom and in my school	1.3	1.1	0.6	0.8		1.1
Yes, in both my classroom and in my home	0.0	0.0	0.6	0.0		0.1
Yes, in both my school and in my home	1.0	1.5	0.6	4.2		1.5
Yes, in my classroom, school, and home	1.0	0.0	1.9	0.8		0.8
No, I don't	<u>73.5</u>	<u>70.9</u>	<u>76.3</u>	<u>74.6</u>		<u>73.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118		n = 844

Does your classroom, school, or home computer have a CD-ROM?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	5.6	12.7	35.3	5.1	6.2	11.8
Yes, in my school only	4.6	4.9	0.0	7.6	3.5	4.1
Yes, in my home only	15.6	15.3	0.0	0.0	0.0	8.2
Yes, in both my classroom and in my school	9.9	3.0	32.7	75.4	81.1	33.8
Yes, in both my classroom and in my home	8.3	23.1	0.0	0.0	0.0	8.1
Yes, in both my school and in my home	10.3	3.7	0.0	0.0	0.0	3.8
Yes, in my classroom, school, and home	40.1	15.3	0.0	0.0	0.0	15.1
No, I don't	<u>5.6</u>	<u>22.0</u>	<u>32.1</u>	<u>11.9</u>	<u>9.3</u>	<u>15.0</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Does your classroom, school, or home computer have a local area network?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	17.2	11.6	34.0	n/a	n/a	18.7
Yes, in my school only	1.7	1.1	5.8			2.3
Yes, in my home only	12.3	12.7	0.0			9.8
Yes, in both my classroom and in my school	5.6	3.7	7.7			5.4
Yes, in both my classroom and in my home	17.5	21.3	0.0			15.2
Yes, in both my school and in my home	3.3	2.6	0.0			2.3
Yes, in my classroom, school, and home	8.3	10.8	0.0			7.4
No, I don't	<u>34.1</u>	<u>36.2</u>	<u>52.6</u>			<u>38.8</u>
Total, percentage	100.0	100.0	100.0			100.0
Number of responses, n	n = 302	n = 268	n = 156			n = 726

Does your classroom, school, or home computer have a district-wide network?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	14.6	4.9	44.9	n/a	n/a	17.5
Yes, in my school only	0.7	7.8	0.0			3.2
Yes, in my home only	12.9	10.4	0.0			9.2
Yes, in both my classroom and in my school	2.6	10.1	0.6			5.0
Yes, in both my classroom and in my home	19.2	7.8	0.0			10.9
Yes, in both my school and in my home	2.6	8.6	0.0			4.3
Yes, in my classroom, school, and home	6.3	43.7	0.0			18.7
No, I don't	<u>41.1</u>	<u>6.7</u>	<u>54.5</u>			<u>31.3</u>
Total, percentage	100.0	100.0	100.0			100.0
Number of responses, n	n = 302	n = 268	n = 156			n = 726

Does your classroom, school, or home computer have an Internet connection?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	11.3	3.4	35.3	6.8	7.5	11.5
Yes, in my school only	5.6	4.5	5.1	10.2	2.2	5.0
Yes, in my home only	12.9	13.1	0.0	0.0	0.0	6.9
Yes, in both my classroom and in my school	15.2	7.8	15.4	73.7	81.1	33.8
Yes, in both my classroom and in my home	9.9	4.1	0.0	0.0	0.0	3.8
Yes, in both my school and in my home	8.3	11.2	0.0	0.0	0.0	5.1
Yes, in my classroom, school, and home	26.5	50.0	0.0	0.0	0.0	20.0
No, I don't	<u>10.3</u>	<u>6.0</u>	<u>44.2</u>	<u>9.3</u>	<u>9.3</u>	<u>13.8</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Does your classroom, school, or home computer have a DVD drive?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Responses, percentage</u>						
Yes, in my classroom only	n/a	n/a	n/a	2.5	6.2	4.9
Yes, in my school only				22.9	33.0	29.6
Yes, in my home only				0.0	0.0	0.0
Yes, in both my classroom and in my school				12.7	20.3	17.7
Yes, in both my classroom and in my home				0.0	0.0	0.0
Yes, in both my school and in my home				0.0	0.0	0.0
Yes, in my classroom, school, and home				0.0	0.0	0.0
No, I don't				<u>61.9</u>	<u>40.5</u>	<u>47.8</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 118	n = 227	n = 345

How many computers are in your classroom?

(Grouped for presentation purposes)

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Number of computers, percentage</u>						
Zero	8.9	4.7	3.4	5.7	3.6	5.7
One	37.4	39.5	39.0	39.6	30.1	36.9
Two	20.6	15.0	18.6	15.1	18.7	17.9
Three	10.7	13.0	11.9	12.3	12.4	12.0
Four	5.0	8.3	9.3	6.6	8.3	7.3
Five	5.3	4.7	7.6	4.7	7.3	5.8
Six to ten	7.1	11.1	5.1	7.5	11.4	8.8
Over ten	5.0	3.6	5.1	8.5	7.8	5.6
It varies	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.5</u>	<u>0.1</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 281	n = 253	n = 118	n = 106	n = 193	n = 951
Mean (including zeros)	3.0	3.1	3.1	3.8	4.4	3.4
Median (including zeros)	2.0	2.0	2.0	2.0	2.0	2.0
Standard deviation	4.01	3.79	3.844	5.340	6.719	4.791
Did not answer this question, n	21	15	38	12	34	120

What operating system does your classroom computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Operating system type, percentage</u>						
Windows XP	n/a	n/a	n/a	n/a	16.2	3.5
Windows 2000	n/a	n/a	n/a	n/a	19.8	4.2
Windows ME	n/a	n/a	n/a	n/a	1.0	0.2
Windows 98	n/a	n/a	n/a	n/a	36.5	7.8
Windows 95	n/a	n/a	n/a	n/a	10.7	2.3
Mac OS X	n/a	n/a	n/a	n/a	2.5	0.5
Mac OS 9.x	n/a	n/a	n/a	n/a	5.6	1.2
Mac OS 8.x	n/a	n/a	n/a	n/a	2.0	0.4
Macintosh	27.4	18.9	25.4	22.8	n/a	18.5
Windows	62.0	68.0	65.8	66.3	n/a	51.3
Both	10.6	12.3	8.8	10.9	n/a	8.6
Other	0.0	0.8	0.0	0.0	0.0	0.2
I don't know	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>5.6</u>	<u>1.2</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 263	n = 244	n = 114	n = 101	n = 197	n = 919
Did not answer this question, n	14	12	38	11	23	98
No computers in classroom, n	25	12	4	6	7	54

Have you and your students ever participated in an electronic/virtual field trip or videoconference?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	n/a	32.0	32.0
No, percentage					<u>68.0</u>	<u>68.0</u>
Total, percentage					100.0	100.0
Number of responses, n					n = 197	n = 197
Did not answer this question, n					23	23
No computers in classroom, n					7	7

In a given month, about how many times does a typical student use a computer in your class?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Student computer use, percentage</u>						
1 to 5 times	25.5	35.0	43.8	40.6	35.7	34.1
6 to 10 times	28.1	23.0	10.7	28.7	23.5	23.7
11 to 20 times	23.2	18.1	23.2	16.8	20.4	20.5
21 to 40 times	14.8	14.8	14.3	8.9	13.8	13.9
41 or more times	<u>8.4</u>	<u>9.1</u>	<u>8.0</u>	<u>5.0</u>	<u>6.6</u>	<u>7.8</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 263	n = 243	n = 112	n = 101	n = 196	n = 915
Did not answer this question, n	14	13	40	11	24	102
No computers in classroom, n	25	12	4	6	7	54

Generally speaking, how do students operate the computers in your classroom?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Student computer use, percentage</u>						
One student per computer	34.4	34.7	40.7	49.5	29.0	35.7
In pairs (2)	28.9	23.6	37.2	26.4	39.9	30.6
In groups of 3 to 5 students	13.0	9.5	12.4	9.9	15.0	12.1
As a class	n/a	5.8	6.2	14.3	9.8	5.9
Other	<u>23.7</u>	<u>26.4</u>	<u>3.5</u>	<u>0.0</u>	<u>6.2</u>	<u>15.7</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 253	n = 242	n = 113	n = 91	n = 193	n = 892
Did not answer this question, n	24	14	39	21	27	125
No computers in classroom, n	25	12	4	6	7	54

What type of Internet connection does your classroom have?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Internet connection type, percentage</u>						
28.8 modem	16.1	5.9	1.0	10.3	4.0	8.0
56-K flex modem	12.8	8.4	7.8	5.2	7.1	8.8
Cable modem	16.1	8.0	15.7	16.5	11.6	12.8
T-1 line (or higher)	20.6	37.0	30.4	23.7	46.5	32.7
I do not have one	26.1	9.2	6.9	11.3	0.5	11.5
I do not know	<u>8.3</u>	<u>31.5</u>	<u>38.2</u>	<u>33.0</u>	<u>30.3</u>	<u>26.3</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 218	n = 238	n = 102	n = 97	n = 198	n = 853
Did not answer this question, n	59	18	50	15	22	164
No computers in classroom, n	25	12	4	6	7	54

To what extent do you disagree or agree that the school-based technology training provided by your school division improved your computer technology skills?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	39.4	38.4	25.3	n/a	36.2
4		13.8	22.2	19.0		17.1
3		24.1	17.2	25.3		22.6
2		10.3	11.1	11.4		10.8
1 Disagree		<u>12.3</u>	<u>11.1</u>	<u>19.0</u>		<u>13.4</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 203	n = 99	n = 79		n = 381
Mean		3.58	3.66	3.20		3.52
Standard deviation		1.41	1.38	1.436		1.413
No opinion, n		19	42	21		82
Did not provide school-based training, n		46	15	18		79

Are higher order thinking skills among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	n/a	73.9	62.8	63.6	80.2	71.9
No, percentage		<u>26.1</u>	<u>37.2</u>	<u>36.4</u>	<u>19.8</u>	<u>28.1</u>
Total, percentage		100.0	100.0	100.0	100.0	100.0
Number of responses, n		n = 268	n = 156	n = 118	n = 227	n = 769

Is mastering skills just taught among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	59.9	51.9	40.4	44.9	61.7	53.8
No, percentage	<u>40.1</u>	<u>48.1</u>	<u>59.6</u>	<u>55.1</u>	<u>38.3</u>	<u>46.2</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Is remediation of skills not learned well among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	59.6	53.0	41.7	47.5	49.8	51.9
No, percentage	<u>40.4</u>	<u>47.0</u>	<u>58.3</u>	<u>52.5</u>	<u>50.2</u>	<u>48.1</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Is expressing ideas in writing among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	63.2	51.9	44.2	57.6	62.1	56.8
No, percentage	<u>36.8</u>	<u>48.1</u>	<u>55.8</u>	<u>42.4</u>	<u>37.9</u>	<u>43.2</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Is communicating electronically with others among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	40.1	37.7	26.9	37.3	33.9	35.9
No, percentage	<u>59.9</u>	<u>62.3</u>	<u>73.1</u>	<u>62.7</u>	<u>66.1</u>	<u>64.1</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Is finding out about ideas and information among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	74.8	75.4	62.2	79.7	78.0	74.3
No, percentage	<u>25.2</u>	<u>24.6</u>	<u>37.8</u>	<u>20.3</u>	<u>22.0</u>	<u>25.7</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Is analyzing information among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	34.8	61.9	43.6	50.0	69.2	51.8
No, percentage	<u>65.2</u>	<u>38.1</u>	<u>56.4</u>	<u>50.0</u>	<u>30.8</u>	<u>48.2</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 68	n = 156	n = 118	n = 227	n = 1071

Is presenting information to an audience among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	20.2	50.7	34.6	47.5	59.5	41.3
No, percentage	<u>79.8</u>	<u>49.3</u>	<u>65.4</u>	<u>52.5</u>	<u>40.5</u>	<u>58.7</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Is improving computer skills among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	68.2	66.8	53.2	63.6	59.5	63.3
No, percentage	<u>31.8</u>	<u>33.2</u>	<u>46.8</u>	<u>36.4</u>	<u>40.5</u>	<u>36.7</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Is learning to work collaboratively among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	53.3	59.3	48.7	55.9	63.0	56.5
No, percentage	<u>46.7</u>	<u>40.7</u>	<u>51.3</u>	<u>44.1</u>	<u>37.0</u>	<u>43.5</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Is learning to work independently among the objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	52.6	63.1	53.2	61.0	59.0	57.6
No, percentage	47.4	36.9	46.8	39.0	41.0	42.4
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Are there other objectives you have for student computer use?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Yes, percentage	0.0	11.2	4.5	4.2	7.0	5.4
No/Choice not marked, percentage . . .	100.0	88.8	95.5	95.8	93.0	94.6
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Summary Table

Goals for Student Computer Use

What are your objectives for student computer use?

[Percent who said yes; n denotes number of responses]

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
	n/a	73.9	62.8	63.6	80.2	71.9
Higher order thinking skills		n = 268	n = 156	n = 118	n = 227	n = 769
	59.9	51.9	40.4	44.9	61.7	53.8
Mastering skills just taught	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071
	59.6	53.0	41.7	47.5	49.8	51.9
Remediation of skills not learned well	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071
	63.2	51.9	44.2	57.6	62.1	56.8
Expressing ideas in writing	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071
	40.1	37.7	26.9	37.3	33.9	35.9
Communicating electronically with others	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071
	74.8	75.4	62.2	79.7	78.0	74.3
Finding out about ideas and information	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071
	34.8	61.9	43.6	50.0	69.2	51.8
Analyzing information	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071
	20.2	50.7	34.6	47.5	59.5	41.3
Presenting information to an audience	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071
	68.2	66.8	53.2	63.6	59.5	63.3
Improving computer skills	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071
	53.3	59.3	48.7	55.9	63.0	56.5
Learning to work collaboratively . . .	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071
	52.6	63.1	53.2	61.0	59.0	57.6
Learning to work independently	n = 302	n = 268	n = 156	n = 118	n = 227	n = 1071

Do you use computers to record or calculate student grades?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Frequency of computer use, percentage</u>						
Occasionally	17.5	8.7	23.7	11.8	6.7	13.0
Weekly	24.9	20.5	24.6	18.2	21.2	22.2
More often	26.7	50.8	28.8	42.7	55.8	41.2
Do not use	<u>30.9</u>	<u>20.1</u>	<u>22.9</u>	<u>27.3</u>	<u>16.3</u>	<u>23.6</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 285	n = 254	n = 118	n = 110	n = 208	n = 975
Did not answer this question, n	17	14	38	8	19	96

Do you use computers to make handouts for students?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Frequency of computer use, percentage</u>						
Occasionally	35.0	19.5	26.3	23.6	15.0	24.4
Weekly	27.6	28.1	26.3	26.4	31.9	28.4
More often	32.5	50.8	44.1	46.4	52.2	44.4
Do not use	<u>4.9</u>	<u>1.6</u>	<u>3.4</u>	<u>3.6</u>	<u>1.0</u>	<u>2.9</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 286	n = 256	n = 118	n = 110	n = 207	n = 977
Did not answer this question, n	16	12	38	8	20	94

Do you use computers to correspond with parents?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Frequency of computer use, percentage</u>						
Occasionally	42.2	42.1	42.4	45.5	37.1	41.5
Weekly	23.3	15.9	17.8	10.9	24.4	19.5
More often	12.2	17.1	10.2	13.6	20.0	15.0
Do not use	<u>22.3</u>	<u>25.0</u>	<u>29.7</u>	<u>30.0</u>	<u>18.5</u>	<u>24.0</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 287	n = 252	n = 118	n = 110	n = 205	n = 972
Did not answer this question, n	15	16	38	8	22	99

Do you use computers to write lesson plans or related notes?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Frequency of computer use, percentage</u>						
Occasionally	31.2	23.3	28.8	29.7	17.6	25.8
Weekly	27.0	27.6	33.1	27.0	31.2	28.8
More often	22.5	35.0	23.7	30.6	46.3	31.9
Do not use	<u>19.3</u>	<u>14.0</u>	<u>14.4</u>	<u>12.6</u>	<u>4.9</u>	<u>13.5</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 285	n = 257	n = 118	n = 111	n = 205	n = 976
Did not answer this question, n	17	11	38	7	22	95

Do you use computers to get information or pictures from the Internet for use in lessons?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Computer use to get information/ pictures for lessons, percentage</u>						
Occasionally	44.8	34.2	42.4	43.2	30.4	38.5
Weekly	21.3	22.6	22.9	18.9	24.0	22.1
More often	20.6	35.0	28.0	35.1	44.1	31.9
Do not use	<u>13.3</u>	<u>8.2</u>	<u>6.8</u>	<u>2.7</u>	<u>1.5</u>	<u>7.5</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 286	n = 257	n = 118	n = 111	n = 204	n = 976
Did not answer this question, n	16	11	38	7	23	95

Do you use camcorders, digital cameras, or scanners to prepare for class?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Camcorder, digital camera, or scanner use, percentage</u>						
Occasionally	41.3	35.9	39.0	43.2	48.1	41.2
Weekly	8.4	11.7	9.3	3.6	12.6	9.7
More often	3.5	6.6	5.1	5.4	11.7	6.4
Do not use	<u>46.9</u>	<u>45.7</u>	<u>46.6</u>	<u>47.7</u>	<u>27.7</u>	<u>42.6</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 286	n = 256	n = 118	n = 111	n = 206	n = 977
Did not answer this question, n	16	12	38	7	21	94

Do you use computers to exchange computer files with other teachers (including e-mail and attachments)?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Exchange of computer files, percentage</u>						
Occasionally	37.5	38.8	42.4	36.0	34.6	37.7
Weekly	4.6	10.6	6.8	7.2	15.9	9.1
More often	5.6	8.2	1.7	5.4	34.6	12.0
Do not use	<u>52.3</u>	<u>42.4</u>	<u>49.2</u>	<u>51.4</u>	<u>14.9</u>	<u>41.2</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 285	n = 255	n = 118	n = 111	n = 208	n = 977
Did not answer this question, n	17	13	38	7	19	94

Do you use computers to post student work, suggestions for resources, or ideas and opinions on the World Wide Web?

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
<u>Post student work, resources, ideas, opinions on Web, percentage</u>						
Occasionally	21.3	23.6	30.8	18.0	32.4	25.0
Weekly	5.6	5.5	6.8	6.3	9.2	6.6
More often	2.8	5.1	1.7	2.7	10.6	4.9
Do not use	<u>70.3</u>	<u>65.7</u>	<u>60.7</u>	<u>73.0</u>	<u>47.8</u>	<u>63.5</u>
Total, percentage	100.0	100.0	100.0	100.0	100.0	100.0
Number of responses, n	n = 286	n = 254	n = 117	n = 111	n = 207	n = 975
Did not answer this question, n	16	14	39	7	20	96

Summary Table

Teachers' Use of Technology

How do you use computers?

[Percent who said yes; n denotes number of responses]

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
To record or calculate student grades	69.1 n = 285	79.9 n = 254	77.1 n = 118	72.7 n = 110	83.7 n = 208	76.4 n = 975
To make handouts for students	95.1 n = 286	98.4 n = 256	96.6 n = 118	96.4 n = 110	99.0 n = 207	97.1 n = 977
To correspond with parents	77.7 n = 287	75.0 n = 252	70.3 n = 118	70.0 n = 110	81.5 n = 205	76.0 n = 972
To write lesson plans or related notes	80.7 n = 285	86.0 n = 257	85.6 n = 118	87.4 n = 111	95.1 n = 205	86.5 n = 976
To get information or pictures from the Internet for use in lessons	86.7 n = 286	91.8 n = 257	93.2 n = 118	97.3 n = 111	98.5 n = 204	92.5 n = 976
Do you use camcorders, digital cameras, or scanners to prepare for class	53.1 n = 286	54.3 n = 256	53.4 n = 118	52.3 n = 111	72.3 n = 206	57.4 n = 977
To exchange computer files with other teachers	47.7 n = 285	57. n = 255	50.8 n = 118	48.6 n = 111	85.1 n = 208	58.8 n = 977
To post student work, suggestions for resources, or ideas and opinions on the World Wide Web	29.7 n = 286	34.3 n = 254	39.3 n = 117	27.0 n = 111	52.2 n = 207	36.5 n = 975

Topic 9. Overall Assessment of NASA CONNECT™

Respondents were asked to provide an overall assessment of the nine programs in the NASA CONNECT™ series. The data in this section depict these assessments over the past five years of NASA CONNECT™.

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs met their stated objectives?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	57.0	62.8	60.9	57.7	n/a	59.4
4	36.3	30.3	31.5	37.2		33.9
3	5.6	5.9	6.5	3.8		5.6
2	1.1	0.5	1.1	1.3		1.0
1 Disagree	<u>0.0</u>	<u>0.5</u>	<u>0.0</u>	<u>0.0</u>		<u>0.2</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 270	n = 188	n = 92	n = 78		n = 628
Mean	4.49	4.54	4.52	4.51		4.51
Standard deviation66	.68	.671	.639		.662
No opinion, n	32	180	64	40		216

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the program content was developmentally appropriate for the grade level?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	45.9	41.3	37.2	51.2	n/a	43.9
4	38.8	40.3	40.4	37.8		39.4
3	11.2	13.8	17.0	9.8		12.7
2	3.0	3.1	4.3	0.0		2.8
1 Disagree	<u>1.1</u>	<u>1.5</u>	<u>1.1</u>	<u>1.2</u>		<u>1.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 268	n = 196	n = 94	n = 82		n = 640
Mean	4.25	4.17	4.09	4.38		4.22
Standard deviation85	.89	.900	.764		.863
No opinion, n	34	72	62	36		204

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the program content was aligned with the national mathematics, science, and technology standards?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	67.7	62.5	67.7	66.7	n/a	66.0
4	26.1	31.8	25.8	28.4		28.1
3	6.2	5.7	6.5	4.9		5.9
2	0.0	0.0	0.0	0.0		0.0
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 257	n = 192	n = 93	n = 81		n = 623
Mean	4.61	4.57	4.61	4.62		4.60
Standard deviation60	.60	.608	.582		.599
No opinion, n	45	76	63	37		221

Thinking about the programs in the NASA CONNECT™ series...To what extent do you disagree or agree that the program content was easily integrated into the curriculum?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	39.0	48.1	37.6	51.9	n/a	43.2
4	36.7	25.9	30.1	28.4		31.4
3	19.5	18.5	28.0	13.6		19.7
2	4.1	6.3	1.1	4.9		4.4
1 Disagree	<u>0.7</u>	<u>1.1</u>	<u>3.2</u>	<u>1.2</u>		<u>1.3</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 267	n = 189	n = 93	n = 81		n = 630
Mean	4.09	4.14	3.98	4.25		4.11
Standard deviation90	1.00	1.000	.956		.954
No opinion, n	35	79	63	37		214

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the program content enhanced the teaching of mathematics, science, and technology?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	56.2	60.6	56.0	56.8	n/a	57.6
4	33.3	30.6	35.2	28.4		32.1
3	10.1	7.8	8.8	13.6		9.7
2	0.4	1.0	0.0	1.2		0.6
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 267	n = 193	n = 91	n = 81		n = 632
Mean	4.45	4.51	4.47	4.41		4.47
Standard deviation69	.69	.656	.771		.693
No opinion, n	35	75	65	37		212

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs raised student awareness about careers that require mathematics, science, and technology?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	53.8	62.6	55.1	56.8	n/a	57.1
4	37.0	28.9	34.8	32.1		33.6
3	8.4	7.9	9.0	8.6		8.4
2	0.8	0.5	0.0	2.5		0.8
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>1.1</u>	<u>0.0</u>		<u>0.2</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 262	n = 190	n = 89	n = 81		n = 622
Mean	4.44	4.54	4.43	4.43		4.47
Standard deviation68	.66	.752	.757		.696
No opinion, n	40	78	67	37		222

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs presented the application of mathematics, science, and technology on the job?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	58.7	60.6	54.8	61.0	n/a	59.0
4	32.3	34.7	33.3	31.7		33.1
3	8.6	4.1	10.8	6.1		7.2
2	0.4	0.5	1.1	1.2		0.6
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 269	n = 193	n = 93	n = 82		n = 637
Mean	4.49	4.55	4.42	4.52		4.51
Standard deviation67	.60	.727	.671		.658
No opinion, n	33	75	63	36		207

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs presented workplace mathematics, science, and technology as a collaborative process?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	53.6	64.2	56.0	63.0	n/a	58.3
4	35.6	31.1	29.7	28.4		32.4
3	10.5	4.2	12.1	7.4		8.4
2	0.4	0.5	2.2	1.2		0.8
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 267	n = 190	n = 91	n = 81		n = 629
Mean	4.42	4.59	4.40	4.53		4.48
Standard deviation69	.60	.787	.691		.683
No opinion, n	35	78	65	37		215

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs presented mathematics, science, and technology as a process requiring creativity, critical thinking, and problem-solving skills?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	65.2	66.3	64.9	61.7	n/a	65.0
4	27.4	30.6	26.6	29.6		28.5
3	7.4	2.6	7.4	8.6		6.1
2	0.0	0.5	1.1	0.0		0.3
1 Disagree	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage	100.0	100.0	100.0	100.0		100.0
Number of responses, n	n = 270	n = 193	n = 94	n = 81		n = 638
Mean	4.58	4.63	4.55	4.53		4.58
Standard deviation63	.56	.682	.654		.620
No opinion, n	32	75	62	37		206

Thinking about the programs in the NASA CONNECT™ series... To what extent do you disagree or agree that the programs presented women and minorities performing challenging engineering and science tasks?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
<u>5-point scale, percentage</u>						
5 Agree	n/a	62.2	53.9	63.4	n/a	60.4
4		31.4	34.8	26.8		31.2
3		5.9	11.2	9.8		8.1
2		0.5	0.0	0.0		0.3
1 Disagree		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>		<u>0.0</u>
Total, percentage		100.0	100.0	100.0		100.0
Number of responses, n		n = 185	n = 89	n = 82		n = 356
Mean		4.55	4.43	4.54		4.52
Standard deviation63	.69	.670		.656
No opinion, n		83	67	36		186

Summary Table of Means

Overall Assessment of NASA CONNECT™

To what extent do you disagree or agree with the following statements about NASA CONNECT™ [1 = Disagree; 5 = Agree]?

The programs met their stated objectives.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.49	4.54	4.52	4.51	n/a	4.51
Standard deviation66	.68	.671	.639		.662
Number of responses, n	n = 270	n = 188	n = 92	n = 78		n = 628

The program content was developmentally appropriate for the grade level.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.25	4.17	4.09	4.38	n/a	4.22
Standard deviation85	.89	.900	.764		.863
Number of responses, n	n = 268	n = 196	n = 94	n = 82		n = 640

The program content was aligned with the national mathematics, science, and technology standards.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.61	4.57	4.61	4.62	n/a	4.60
Standard deviation60	.60	.608	.582		.599
Number of responses, n	n = 257	n = 192	n = 93	n = 81		n = 623

The program content was easily integrated into the curriculum.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.09	4.14	3.98	4.25	n/a	4.11
Standard deviation90	1.00	1.000	.956		.954
Number of responses, n	n = 267	n = 189	n = 93	n = 81		n = 630

The program content enhanced the teaching of mathematics, science, and technology.

Broadcast seasons, years	<u>98-99</u>	<u>99-00</u>	<u>00-01</u>	<u>01-02</u>	<u>02-03</u>	<u>Overall</u>
Mean	4.45	4.51	4.47	4.41	n/a	4.47
Standard deviation69	.69	.656	.771		.693
Number of responses, n	n = 267	n = 193	n = 91	n = 81		n = 632

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean by using a T-Test Statistic. A "T" denotes any significant differences.

Summary Table of Means

Overall Assessment of NASA CONNECT™ (continued)

To what extent do you disagree or agree with the following statements about NASA CONNECT™ [1 = Disagree; 5 = Agree]?

The programs raised student awareness about careers that require mathematics, science, and technology.

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Mean	4.44	4.54	4.43	4.43	n/a	4.47
Standard deviation68	.66	.752	.757		.696
Number of responses, n	n = 262	n = 190	n = 89	n = 81		n = 622

The programs presented the application of mathematics, science, and technology on the job.

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Mean	4.49	4.55	4.42	4.52	n/a	4.51
Standard deviation67	.60	.727	.671		.658
Number of responses, n	n = 269	n = 193	n = 93	n = 82		n = 637

The programs presented workplace mathematics, science, and technology as a collaborative process.

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Mean*	4.42	4.59	4.40	4.53	n/a	4.48
Standard deviation69	.60	.787	.691		.683
Number of responses, n	n = 267	n = 190	n = 91	n = 81		n = 629

The programs presented mathematics, science, and technology as a process requiring creativity, critical thinking, and problem-solving skills.

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Mean	4.58	4.63	4.55	4.53	n/a	4.58
Standard deviation63	.56	.682	.654		.620
Number of responses, n	n = 270	n = 193	n = 94	n = 81		n = 638

The programs presented women and minorities performing challenging engineering and science tasks.

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Mean	n/a	4.55	4.43	4.54	n/a	4.52
Standard deviation63	.69	.670		.656
Number of responses, n		n = 185	n = 89	n = 82		n = 356

Note: Each set of means was analyzed by using an ANOVA procedure. An asterisk denotes any significant differences. The first mean from each group was compared to the last mean by using a T-Test Statistic. A “T” denotes any significant differences.

Have you recommended NASA CONNECT™ to a colleague?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	79.0	100.0	92.4
No, percentage				<u>21.0</u>	<u>0.0</u>	<u>7.6</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 100	n = 178	n = 278
Did not answer this question, n				18	49	67

One goal of NASA CONNECT™ is to educate and inform others about what NASA does. Do you think NASA CONNECT™ has been successful in this regard?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Yes, percentage	n/a	n/a	n/a	91.8	94.7	93.7
No, percentage				<u>8.2</u>	<u>5.3</u>	<u>6.3</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 97	n = 190	n = 287
Did not answer this question, n				21	37	58

In your opinion, does NASA CONNECT™ (fill in choices) contain information about NASA?

Broadcast seasons, years	<u>98–99</u>	<u>99–00</u>	<u>00–01</u>	<u>01–02</u>	<u>02–03</u>	<u>Overall</u>
Very credible, percentage	n/a	n/a	n/a	89.2	88.3	88.6
Somewhat credible, percentage				3.9	2.5	3.0
Not credible, percentage				0.0	0.0	0.0
I'm unable to judge, percentage				<u>6.9</u>	<u>9.1</u>	<u>8.4</u>
Total, percentage				100.0	100.0	100.0
Number of responses, n				n = 102	n = 197	n = 299
Did not answer this question, n				16	30	46

Interpreting Data

Having presented the survey findings in the previous section, the next step is to analyze the data in terms of assessing the effectiveness of the NASA CONNECT™ series according to its stated objectives. Excluding the survey demographics, interpretations of the findings are presented for each of the 9 survey topics.

Topic 1. Instructional Technology and Teaching

Survey participants were presented with seven statements about the use of instructional technology in teaching. A 5-point scale was used to measure agreement with the statements. All of the means were exceedingly high, indicating that teachers clearly recognize the many ways instructional technology facilitates and improves learning. The highest mean (4.59 out of a possible 5.0) was given to the statement: “Instructional technology enables teachers to be more creative.” While still high, the lowest average agreement score was 4.03, indicating that there may be some exceptions in terms of instructional technology being effective with “virtually all types of students.” Regardless, these educators see great value in instructional technology.

Statements About Using Instructional Technology in Teaching
[Scale: 1=Disagree; 5=Agree]

Average

- 4.59 Instructional technology enables teachers to be more creative.
- 4.52 Instructional technology enables teachers to teach more effectively.
- 4.52 It enables teachers to accommodate different teaching styles.
- 4.49 It increases student motivation and enthusiasm for learning.
- 4.40 It increases student learning and comprehension.
- 4.24 It increases student willingness to discuss content/exchange ideas.
- 4.03 It is effective with virtually all types of students.

Topic 2. Instructional Programming and Technology in the Classroom

Respondents were asked to consider seven statements about instructional programs and technology, in general. While respondents did agree that most technology-based programs are of good quality, schools have increasing numbers of programs available, and their use is supported by administrators, these scores were not as high as those recorded for NASA programs later in the survey. This difference suggests that there is some variation in quality among the instructional programs available to teachers.

Respondents were asked to consider a list of seven possible barriers to integrating technology into their classrooms. Posed as a multiple response question, participants could check any or all factors that were applicable to their situation. While teachers have been reporting an increase in the number of computers in their classrooms in recent years (the average was 3.0 in 1998–99 and was 4.4 in 2002–03), 72.6 percent said that having limited access to computers, or too few computers, and lack of time in the school schedule for technology projects (59.6 percent) were factors inhibiting their use of technology in the classroom.

Statements About Instructional Programming and Technology in the Classroom
[Scale: 1=Disagree; 5=Agree]

Average

- 4.10 Increasingly, schools have greater access to instructional programs.
- 4.02 Administrators support and encourage teachers to use instructional technology in the classroom.
- 3.79 Most of these programs are of good quality.
- 3.66 Classrooms are growing increasingly rich in instructional technology.
- 3.28 Most of these programs ARE appropriate (i.e., not too advanced or too basic) for my students.*
- 3.38 Teachers are generally positive about introducing/using instructional technology in the classroom.
- 3.17 Most of these programs ARE easily broken into “teachable” units.*

*These data were adapted because of wording changes from year to year.

Percent Experiencing These Barriers to Using Technology in Teaching

[Numbers on the left represent percentages.]

72.6	Not having enough/limited access to computers.
59.6	Lack of time in the school schedule for technology projects.
51.9	Not having enough computer software.
47.7	Lack of teacher training for technical projects.
42.0	Lack of knowledge on ways to integrate technology into the curriculum.
41.9	Lack of technical support for technology projects.
13.1	Purchased software has not been installed.

Overall, 73.5 percent of those surveyed do use instructional programming in the classroom. For the past two years, survey participants were asked to consider NASA CONNECT™ in relation to other technology-based instructional programming. Clearly, the quality of NASA CONNECT™ is viewed as being better than average (81.5 percent said they are better), when compared to the alternatives. The same is true for curriculum guides (77.0 percent said they are better) and web-based activities (70.4 percent said they are better).

Is the Quality of NASA CONNECT™ Better Than Other Instructional Programming? (Numbers on the left represent percentages.)

81.5	Yes
12.4	No, it's about the same (but not worse)
6.0	I'm unable to judge

Topic 3. The NASA CONNECT™ Television/Video Programs

Although the survey only asked about each individual video/program, a computer analysis found that 50.8 percent of the 769 teachers surveyed since 1999 had used one or more NASA CONNECT™ videos/programs in their classroom during the year they participated in the survey. For any given show, an average of 54 percent of teachers had not yet used it but plan to in the future. While some teachers did not use the broadcast/video portion of the NASA CONNECT™ program, many of them did use the lesson guides and other components.

Were the NASA CONNECT™ Videos/Programs Used?

50.8 percent	Yes
49.2 percent	No

It appears that some logistical issues impact a teacher's ability to use NASA CONNECT™ in the classroom. In any given year, about half of the NASA CONNECT™ registrants reported at least some difficulty in obtaining the programs in the series. Although questions about the source of the problem were not asked, it may be true that some of the difficulties were internal to a school system (e.g., no technical assistance available).

Did You Have Any Difficulty Obtaining Any of the Programs?

48.6 percent Yes
51.4 percent No

When asked which grade levels had viewed the NASA CONNECT™ programs, evaluators received a variety of responses. The NASA CONNECT™ materials are targeted to a specific age group (i.e., 5th through 8th grade in 1998–99 and 6th through 8th grade thereafter), so the content and approach may not be ideal for other students. In some cases, a considerable number of teachers reported using NASA CONNECT™ with other grade levels. In 1998–99, for example, 24.8 percent of the teachers used NASA CONNECT™ with fourth graders. For obvious reasons, this result could affect the ratings in the next chart (e.g., . . . was developmentally appropriate for the grade level).

Respondents were asked to offer an opinion about the programs in the NASA CONNECT™ series. Sixteen items were included on the list of statements. The highest agreement scores were for the following statements: *The programs presented mathematics, science, and technology as disciplines requiring creativity, critical thinking, and problem-solving skills*, and *The programs demonstrated the application of mathematics, science, and technology on the job*. Those results were followed by these statements: *They illustrated the integration of workplace mathematics, science, and technology* and *They enhanced the integration of mathematics, science, and technology*. Fifteen of the 16 scores were above 4.0 on a 5-point scale, indicating a very high level of satisfaction. While a T-Test comparing first and last year means and an ANOVA procedure did not detect significant differences over time, the reason has more to do with having such high scores than a lack of trend data.

Rating the NASA CONNECT™ Programs [Scale: 1=Disagree; 5=Agree]

Average

- 4.62 They presented mathematics, science, and technology as disciplines requiring creativity, critical thinking, and problem-solving skills.
- 4.61 They demonstrated the application of mathematics, science, and technology on the job.
- 4.60 They illustrated the integration of workplace mathematics, science, and technology.
- 4.56 They enhanced the integration of mathematics, science, and technology.
- 4.53 They raised student awareness of careers that require mathematics, science, and technology.
- 4.51 They presented women and minorities performing challenging engineering and scientific tasks.
- 4.51 They were of good technical quality.
- 4.47 They were a valuable instructional aid.
- 4.39 The programs were of good artistic quality.
- 4.39 They were a positive link between the classroom and the web-based activities.
- 4.29 They increased student enthusiasm for learning.
- 4.21 They enabled me to accommodate different learning styles.
- 4.21 They increased student willingness to discuss/exchange ideas.
- 4.09 They were developmentally appropriate for the grade level.
- 4.05 They were easily incorporated into the curriculum.
- 3.99 They were effective with virtually all types of students.

Topic 4. The NASA CONNECT™ Educator Guides

Use of the NASA CONNECT™ printed educator/lesson guides has varied from year to year, averaging 57.0 percent over the five years. In 1998–99, 77.0 percent of the registrants reported using the guide, while just over half (53.7 percent) used them in 2002–03. This finding may relate to the method of distribution, rather than reflect interest levels or utility.

Did You Use the NASA CONNECT™ Printed Educator/Lesson Guides?

57.0 percent	Yes
43.0 percent	No

A total of 600 of the 1,051 teachers surveyed reported using the educator/lesson guides over the 5-year period. Only 13 percent reported difficulty in getting the guides or having received them too late. Recipients were asked to evaluate seven statements about the NASA CONNECT™ educator guides. All of those agreement scores were well above 4.0, again representing very high ratings. The two highest rating statements were these: *The teacher 'background' portion was a valuable instructional aid*, and *The educator/lesson guides were a valuable instructional aid*. The third highest rated statement was *The print and electronic resources were a valuable instructional aid*.

Rating the NASA CONNECT™ Educator/Lesson Guides [Scale: 1 = Disagree; 5 = Agree]

Average

4.50	The teacher “background” portion was a valuable instructional aid.
4.46	The educator/lesson guides were a valuable instructional aid.
4.41	The print and electronic resources were a valuable instructional aid.
4.35	The layout of the educator guide presented the information clearly.
4.29	The directions/instructions in the educator guides were easily understood.
4.19	Educator/lesson guides were easy to download from the Internet.
4.18	The cue cards provided a positive link between the video and the lesson guide.

Respondents were asked about their willingness to use educator guides on DVD or CD-ROM. Nearly 87 percent indicated they would use them on CD-ROM and 65.6 percent would use them on DVD. These responses reflect the fact that more teachers have access to a CD-ROM than a DVD player.

Topic 5. The NASA CONNECT™ Classroom Activities

Survey participants were asked about their use of NASA CONNECT™ classroom activities. Overall, about half the respondents (50.9 percent) reported using the classroom activities. The 2002–03 year saw a jump of over 10 percent from the prior year, indicating a definite need for the classroom activity component.

Were the NASA CONNECT™ Classroom Activities Used?

50.9 percent	Yes
49.1 percent	No

Respondents who used classroom activities were asked to evaluate four statements. Again, the ratings were extremely high, and no average score was below 4.0 (out of a possible 5.0). The highest rating attribute was *The classroom activities complemented the lesson for each show*. All four statements saw an increase over the prior year's scores.

Rating the NASA CONNECT™ Classroom Activities
[Scale: 1 = Disagree; 5 = Agree]

Average

- 4.39 The classroom activities complemented the lesson for each show.
- 4.17 The classroom activity was developmentally appropriate for the grade level.
- 4.17 The classroom activity was easy for me to use.
- 4.11 The classroom activity was easily incorporated into my lesson plan.

Topic 6. The NASA CONNECT™ Web-Based Activities

Survey participants were also asked about the on-line activities available through the NASA CONNECT™ series. While the use rates were lower than those reported for other components, a considerable number of teachers (58 percent overall) said they planned to use them in the future. Access to an adequate supply of computers for student use may improve use rates for web-based activities in the future.

Were the NASA CONNECT™ On-Line Activities Used?

- 20.9 percent Yes
- 79.1 percent No

Respondents were asked to reflect on 12 statements about the web-based activities. Although relatively few people completed this section of the survey, the scores were quite high. Once again, all mean scores exceeded 4.0 (out of a possible 5.0). Clearly, different learning styles are accommodated, students can work at their own pace, and they can complete the activities in a reasonable amount of time.

Over 90 percent of the respondents over a 4-year period reported that *More on-line activities should be available on the NASA CONNECT™ web site*. The item that ranked second was *The web-based activities will likely be revisited/reused*. Very impressive agreement scores were also offered for *The web-based activities enhanced the integration of math, science, and technology*, along with *The web-based activities had a good balance of text and graphics*, and *The web-based activities raised student awareness of careers that require math, science, and technological knowledge*."

Significant improvement, as evidenced by a T-Test, was found when comparing 1998–99 to 2001–02 for *The content of the web-based activities was easily integrated into the curriculum*. The same was true for *The content for the web-based activities was appropriate for my students*.

Rating the NASA CONNECT™ On-Line Activities
[Scale: 1 = Disagree; 5 = Agree]

Average

- 4.61 More on-line activities should be available on the NASA CONNECT™ web site.
- 4.43 The web-based activities will likely be revisited/reused.
- 4.42 The web-based activities enhanced the integration of math, science, and technology.
- 4.37 The web-based activities had a good balance of text and graphics.
- 4.35 The web-based activities raised student awareness of careers that require math, science, and technological knowledge.
- 4.29 The content of the web-based activities enhanced the integration of math, science, and technology.
- 4.19 The graphics for the web-based activities were appropriate for my students.
- 4.17 The web-based activities allowed my students to work at their own pace.
- 4.15 The web-based activities accommodated various learning styles.
- 4.12 The content of the web-based activities was easily integrated into the curriculum.
- 4.01 The content for the web-based activities was appropriate for my students.
- 4.01 Students were able to complete the web-based activities in a reasonable amount of time.

Topic 7. The NASA CONNECT™ Web Site

Eight statements about the NASA CONNECT™ web site were evaluated by survey participants. Although a substantial number of teachers had no opinion or had not visited the web site, the responses of those who did were very favorable. Clearly, the web site is visually appealing (receiving an agreement score of 4.55 out of a possible 5.0). There is a good balance between text and graphics, and the site is easy to navigate.

Rating the NASA CONNECT™ Web Site
[Scale: 1 = Disagree; 5 = Agree]

Average

- 4.55 The NASA CONNECT™ web site is visually appealing.
- 4.53 When viewed on my monitor, the web site is clearly legible.
- 4.46 The web site is designed so that printouts of individual pages are legible.
- 4.42 There is a good balance between text and graphics.
- 4.39 The page lengths are appropriate.
- 4.39 The links to other sites/pages are current.
- 4.38 The web site is easily navigated.
- 4.01 Pages within the web site download quickly.

Topic 8. Classroom Environment

Respondents were asked about their access to technology items. While computers, VCRs, and televisions were widely available, video cameras, DVD players, and laserdisc players were not as commonly available. Considerably fewer educators had access to videoconferencing.

Do You Have Computers in Your Classroom?

94.3 percent	Yes
5.7 percent	No

The number of computers available in classrooms has increased somewhat over the years. The average number of computers in the classroom in 1998–99 was 3. By 2001–02, the number had increased to 3.8 and stands at 4.4 in the most recent survey (2002–03). In a related measure, the percentage of classrooms with “zero” computers has declined from 8.9 percent in 1998–99 to 3.6 percent in 2002–03. In terms of Internet availability, faster connections are becoming more common in classrooms, with 46.5 percent reporting that they have a T-1 (or higher) line in their classroom and 11.6 percent having a cable modem.

Teachers have a variety of objectives for student computer use. When 11 statements were read, the top 5 objectives were (1) finding out about ideas and information, (2) higher order thinking skills, (3) improving computer skills, (4) learning to work independently, and (5) expressing ideas in writing.

Percentage of Respondents Who Had These Goals for Student Computer Use

74.3	Finding out about ideas and information
71.9	Higher order thinking skills
63.3	Improving computer skills
57.6	Learning to work independently
56.8	Expressing ideas in writing
56.5	Learning to work collaboratively
53.8	Mastering skills just taught
51.9	Remediation of skills not learned well
51.8	Analyzing information
41.3	Presenting information to an audience
35.9	Communicating electronically with others

Educators use computers in many ways. Respondents were asked to consider seven ways computers are used, along with how frequently they use camcorders, digital cameras, or scanners to prepare for class. Over three-fourths of those surveyed over the 5-year period make handouts for students, get information or pictures from the Internet for use in lessons, write lesson plans or related notes, record/calculate student grades, and correspond with parents.

Some of the most interesting trends in this study are found in teachers’ use of computers/technology. The use of computers to record or calculate student grades, make handouts, write lesson plans, and correspond with parents has risen steadily in recent years. The more dramatic increases are found in the use of computers to post student work, suggestions for resources, or ideas and opinions on the World Wide Web (WWW) and in exchanging computer files with other teachers.

Percentage of How Educators Use Computers/Technology

97.1	Use computers to make handouts for students
92.5	Get information or pictures from the Internet for use in lessons
86.5	Use computers to write lesson plans or related notes
76.4	Use computers to record or calculate student grades
76.0	Correspond with parents by computer
58.8	Exchange computer files with other teachers
57.4	Use camcorders, digital cameras, or scanners to prepare for class
36.5	Post student work, resource suggestions, or ideas/opinions on the WWW

Nearly all of the educators surveyed (93.9 percent) over the 5-year period have a personal computer. This percentage has increased from 91.2 percent in 1998–99 to 96.0 percent in 2002–03.

Do You Own a Personal Computer?

93.9 percent	Yes
6.1 percent	No

Topic 9. NASA CONNECT™—Overall Assessment

This portion of the questionnaire attempted to summarize how teachers feel about the entire NASA CONNECT™ program. Respondents read 10 statements and indicated their level of agreement with each. Because some of the same questions had been asked in earlier sections of the 1999–00, 2000–01, and 2001–02 surveys, respondents may have experienced some fatigue. In general, however, the data were parallel where one would expect them to be.

Once again, all scores exceeded 4.0 (out of a possible 5.0), and respondents offered very favorable responses. The two highest agreement scores were in response to *The content was aligned with the national math, science, and technology standards* and *The programs presented learning math, science, and technology as a process requiring creativity, critical thinking, and problem-solving skills.*

Overall Assessment of NASA CONNECT™ [Scale: 1 = Disagree; 5 = Agree]

Average

4.60	The content was aligned with the national math, science, and technology standards.
4.58	The programs presented learning math, science, and technology as a process requiring creativity, critical thinking, and problem-solving skills.
4.52	They presented women and minorities performing challenging engineering and science tasks.
4.51	The programs met their stated objectives.
4.51	They presented the application of math, science, and technology on the job.
4.48	They presented workplace science and technology as a collaborative process.
4.47	The program content enhanced the teaching of math, science, and technology.
4.47	The programs raised student awareness about careers that require math, science, and technology.
4.22	The program content was developmentally appropriate for the grade level.
4.11	The program content was easily integrated into the curriculum.

In marketing, there are two significant measures of success: (1) repeat purchasing and (2) whether or not an item is recommended to others. In the most recent NASA CONNECT™ survey, 61 percent of those responding had used NASA CONNECT™ for more than one year. In that same year, 100 percent reported that they had recommended NASA CONNECT™ to a colleague. Nearly 95 percent said that NASA CONNECT™ was successful in educating and informing others about what NASA does, and overall (1998–99 through 2001–02), 93.3 percent indicated that the programs in NASA CONNECT™ had met their stated objectives. These statistics are exceedingly favorable.

Each educator was asked to consider the credibility of the information about NASA that is presented in NASA CONNECT™. Nearly 92 percent believed the information to be credible, and the others were unable to judge its credibility.

How Credible Is the Information About NASA in NASA CONNECT™?

88.6 percent	Very credible
3.0 percent	Somewhat credible
0.0 percent	Not credible
8.4 percent	I can't judge that

Concluding Remarks

Formative and summative evaluations are critical to any program's success. While formative evaluation is an internal function that re-feeds results into the program to improve upon it, summative evaluation is for the purpose of demonstration and documentation (Beswick, 1990). A 2001 CEO Forum School Technology and Reading Report states, "[a]ssessment should become an ongoing part of instruction to inform and enhance teaching and learning and to promote student achievement" (CEO Forum, 2001). Evaluation is important for numerous reasons and plays an important role in the evolution of distance education (Hawkes, 1996). First, evaluation improves the credibility and validity of a program (Wade, 1999). Second, evaluation can be used to make program changes (Ramirez, 1999). Evaluation is particularly important because of the dynamism inherent both in education and technology. According to Dr. Lawrence T. Frase, Executive Director of the Research Division of Cognitive and Instructional Science at the Educational Testing Service, "The major issue for educational technology in the next millennium will be the effectiveness of its adaptation to social, scientific, and political change" (*THE Journal*, 2000). Third and finally, evaluation can help determine the effectiveness of a program (Hazari and Schnorr, 1999). Because of the wide array of information that can be reaped from the evaluation process and applied to product improvement, the Office of Education conducts an ongoing quantitative and qualitative assessment of NASA CONNECT™.

We use evaluation to obtain objective information that can help us determine the success of our distance learning programs. We consider evaluation (to be) an on-going process, one that provides accurate, reliable information that allows us to judge the merits, value, and worth of our distance learning programs. We believe that evaluation can be used (1) to approximate the "cost/benefit" of our programs (do our distance learning programs produce benefits that justify their costs?); (2) as a tool for determining (managerial) accountability; (3) to produce data that can be used to help make sound decisions relating to program design, personnel, and budget; and (4) to determine the extent to which program objectives are met.

NASA CONNECT™ is a tool for enhancement and enrichment; the best way to gauge the effectiveness of that tool is to assess how it is being used. Various tools help us obtain objective data we can use

to determine the success of this program. In addition to the NASA Educational Evaluation Information System (NEEIS), we use (1) focus group interviews, (2) telephone surveys, and (3) mail (electronic, self-reported) surveys to collect *qualitative* and *quantitative* data from two groups: intermediaries (television station managers that represent the stations that air our programs) and consumers who register to use our programs (formal and informal educators). In the early states of product development, we extend the use of focus groups to include students. We use both *internal* and *external* evaluation to judge the merits, value, and worth of NASA CONNECT™, and we employ both *formative* and *summative* evaluations to help determine the extent to which the NASA CONNECT™ program objectives are met.

As previously stated, five years of NASA CONNECT™ evaluation data were provided to Continental Research to tabulate individual year-end reports and to develop a 5-year trend analysis. Over the years, this collection of data has led to numerous changes designed to improve the extent to which the objectives established for the NASA CONNECT™ program series are being met. Listed below are the most significant changes made for each of the program seasons.

1998–1999

Previously, the NASA CONNECT™ series was produced as two live programs: one for grades 6–8 and the other for grades 3–5. Based on user feedback, NASA CONNECT™ as a live broadcast ceased to exist. Additionally, the grade 3–5 portion was dropped. The NASA CONNECT™ series became a taped (integrated mathematics, science, and technology) program designed for grades 6–8.

1999–2000

User feedback indicated that the lesson guides as presently constructed were not “user” friendly. Consequently, a concerted effort was made to improve the utility of the educator (lesson) guides. This progression included assembling a focus group of 9 middle school mathematics and science educators to critique the guides and to offer recommendations for improving their usability. Their recommendations were used to significantly streamlining the guides and to make them easier to integrate their content into the classroom environment. The guides were also redesigned to be less prescriptive and more suggestive, thus making them more conducive to enhancing and enriching the teaching and learning process. Members of the focus group also recommended that more lesson extensions and resources such as web sites and external links be added to the guides.

2000–2001

Users expressed a desire to have more resources available to them in electronic format. In response, we created the “e-commerce initiative.” This initiative included the transitioning from a printed/mailed delivery of the lesson (educator) guides to the availability of the lesson (educator) guides in pdf. This initiative also included the delivery of multiple resources via e-mail, e-mail notices regarding upcoming NASA CONNECT™ related events, and the creation of an electronic newsletter for the NASA Center for Distance Learning. Changes were also made to the video portion of the program with the inclusion and integration of “cue cards” which recap the important points and lessons which have been presented in each program.

2001–2002

To establish a stronger connection between theory and practice, development of the program was altered to include more research-, and inquiry-based concepts and segments to enhance the standards-based learning environment that the NASA CONNECT™ series seeks to create. In response to an increased demand for more web-based activities, a partnership was formed with Riverdeep that resulted in the inclusion of math-based activities to the NASA CONNECT™ web site. To help develop problem-solving skills, the “cue cards,” which were implemented in the previous year, became more repetitive and more inquiry-based.

2002–2003

Again, to establish a stronger connection between theory and practice, users indicated that they would like to see programs in the NASA CONNECT™ series become more inquiry-based, interactive, and educator directed. In response, “paused points” were added to the video component. Furthermore, a “student challenge” was added to each program. Based on user input, the NASA CONNECT™ web site was upgraded to improve the users’ experience and more inquiry-based activities were added to the site. Finally, we began the process of incorporating more assistive technology to the NASA CONNECT™ series by making each program closed and audio (descriptive) captioned.

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